

REMARKS

The specification has been amended to improve grammar, punctuation and to correct typographical errors, and to incorporate subject matter from U.S. Application No. 10/156,814 and International Application No. PCT/US02/16918, both of which were incorporated by reference by the specification of the present application as originally filed. Specifically, the substitute specification was amended to include a brief description of new Figures 2D (which corresponds to Figure 8 of U.S. Application No. 10/156,814), 4A (which corresponds to Figure 51 of U.S. Application No. 10/156,814), 4B (which corresponds to Figure 58A of International Application No. PCT/US02/16918 and U.S. Application No. 10/156,814), and 4C (which corresponds to Figure 59 of International Application No. PCT/US02/16918 and U.S. Patent Application No. 10/156,814). The specification has also been amended to include reference characters “600,” “610,” “612,” “614,” “616,” “618” and “620.” The specification has also been amended to improve brevity.

The drawings have also been amended. Specifically, Figures 1A, 1B, 1C, 2A, 2B, 2C, 3A and 3B have been amended to add new character references, or to include previously omitted character references. New Figure 2D has been added and corresponds to Figure 8 of U.S. Application No. 10/156,814, which was incorporated by reference by the application as originally filed. New Figure 4A has been added and corresponds to Figure 51 of U.S. Application No. 10/156,814. New Figure 4B has been added and corresponds to Figure 58A of International Application No. PCT/US02/16918 and of U.S. Application No. 10/156,814, both of which were incorporated by reference by the present application as originally filed. New Figure 4C has been added and corresponds to Figure 59 of International Application No. PCT/US02/16918 and U.S. Patent Application No. 10/156,814, both of which were incorporated by reference by the application as originally filed.

Figures 26, 27A, 27B, 27C, 27D, 29A, 29B, 31A, 31B, 31C, 31D, 32A, 32B, 32C, 32D, 32E, 32F, 32G, 33A, 33B, 34A, 34B, 34C, 34D, 35A, 35B, 36, 37, 38A, 38B, 39A, 39B, 39C, 40A, 40B, 40C and 40D have been relabeled in accordance with the amendments to the drawings described above and so the drawings are numbered consecutively. Corresponding amendments to the specification has also been made.

Claims 1-4, 6-10 and 12-20 have been amended, and add new claims 21-53 have been added. More specifically, claim 1 has been amended to delete “modular” from the preamble and to replace the element “means for reflecting” with the description that “at least one of said membranes is reflective to electromagnetic radiation” as described on page 38, lines 16-35, of the originally filed specification. In addition, claim 1 has been amended to recite that the “at least one pressure adjusting or inflation means” is “for adjusting the pressure within or inflating said reflector chamber.”

Claim 2 has been amended to delete the term “strong” and to delete numerous unnecessary phrases from the claim. Claim 2 has also been amended to replace the phrase “are made from” with --comprise-- and to replace the term “of” with --comprising--. Therefore, the present amendment has no limiting effect on claim 2, and actually broadens the scope of this claim.

Claim 3 has been amended to delete the terms “flexible” and “Ziploc-type,” and to replace the word “are” with --include--. The present amendment has no limiting effect on claim 3, and actually broadens the scope of this claim. Claim 4 has been amended to delete the phrase “for hanging when in storage.” The present amendment has no limiting effect on claim 4. In fact, the scope of claim 4 has been broadened by the present amendment.

Claim 6 has been amended to replace the term “are” with --comprise-- and to delete numerous unnecessary phrases. Therefore, the present amendment has no limiting effect on

the scope of this claim, and actually broadens the scope of claim 6. Claim 7 has been amended to delete the phrase beginning with “whereby...,” which has no limiting effect and actually broadens the scope of claim 7. Claim 8 has been amended to delete the term “outlet” and to improve grammar. The present amendment has no limiting effect on claim 8, and actually broadens the scope of this claim. Claim 9 has been amended to improve grammar, which has no limiting effect on the scope of this claim.

Claim 10 has been amended to delete the phrase beginning with “whereby...,” and to recite that “at least one of said rings is attached to extend above at least one other of said rings” as supported by Figures 1B and 26 of the application as originally filed. Claim 12 has been amended to delete the word “falling” and to replace the “ring support element” with --apparatus--. Claim 13 has been amended to delete the word “stretched,” which has no limiting effect on, and actually broadens, the scope of this claim. Claim 14 has been amended to improve grammar by replacing the phrase “rollable into a retracted position” with the word --retractable--.

Claim 15 has been amended to delete the terms “modular” and “substantially optimized” from the preamble and to improve grammar. The preamble of claim 15 has also been amended to replace the word “and” with --or-- as supported on page 10, lines 7-10 of the specification as originally filed. Furthermore, claim 15 has been amended to replace the element “means for reflecting” with the description that “at least one of said membranes is reflective to electromagnetic radiation” as described on 38, lines 16-35, of the originally filed specification. In addition, claim 15 has been amended to recite that the “at least one pressure adjusting or inflation means” is “for adjusting the pressure within or inflating said reflector chamber.”

Claim 16 has been amended to delete the term “modular” from the preamble; therefore, the present amendment has no limiting effect on the scope of this claim and

actually broadens the scope of this claim. In addition, claim 16 has been amended to recite that the “at least one pressure adjusting or inflation means” is “for adjusting the pressure within or inflating said reflector chamber.”

Claim 17 has been amended to improve grammar and to delete numerous unnecessary phrases. Claim 18 has been amended to improve grammar and to delete unnecessary phrases. Claim 19 has been amended to replace the term “element” with the term --item-- as supported on page 10, lines 28-37, of the specification as originally filed. Claim 19 has also been amended to improve grammar. Claim 20 has been amended to delete the term “modular” from the preamble and to improve grammar. In addition, claim 20 has been amended to recite that the “at least one pressure adjusting or inflation means” is “for adjusting the pressure within or inflating said chamber.” The present amendment has no limiting effect on the scope of claim 20. In fact, the present amendment actually broadens the scope of claim 20.

New claim 21 depends upon claim 1, and further recites “at least one safety shield or safety cage operable to reduce the risk of accidental or unintentional exposure to concentrated electromagnetic radiation” as supported on page 34, line 19, to page 25, line 14, and by Figures 1A, 1B, 1C of the application as originally filed.

New claim 22 depends on claim 1 and further recites “at least one safety shield or safety cage disposed to provide a physical barrier at least partially surrounding a focal point defined by said apparatus” as supported on by Figures 27A to 27D, and on page 66, line 21, to page 67, line 29, of the application as originally filed.

New claim 23 depends on claim 1 and further recites “at least one inflatable safety shield or inflatable safety cage disposed to provide a physical barrier at least partially surrounding a focal point defined by said apparatus” as supported on by Figures 27A to 27D, and on page 66, line 21, to page 67, line 29, of the application as originally filed.

New claim 24 depends upon claim 21, and is directed to various “safety shield” embodiments supported on page 34, line 19, to page 35, line 14; page 65, line 38, to page 66, line 8; and as shown in Figures 1A, 1B and 1C of the application as originally filed.

New claim 25 depends upon claim 21, and is directed to various “safety cage” embodiments supported on page 34, line 19, to page 35, line 14; page 65, lines 17-37; page 68, line 19, to page 69, line 5; page 69, line 27, to page 70, line 21; and as shown in Figures 1A, 1B, 1C, 29A to 29D, and 32A to 32G of the application as originally filed.

New claim 26 depends upon claim 21, and further recites “wherein said apparatus includes at least one safety shield comprising a safety net or mesh...” as supported on page 35, lines 7-14, and as shown in Figures 1B and 1C, of the application as originally filed.

New claim 27 depends upon claim 21, and further recites “wherein said apparatus includes at least one safety cage comprising a safety net or mesh” as supported on page 35, lines 7-14, and on page 66, line 21, to page 67, line 18, and as shown in Figures 27A to 27D, of the application as originally filed.

New claim 28 depends upon claim 21, and recites that the “safety shield or cage is removably attached to said apparatus” as supported on page 34, lines 19-32, and on page 67, lines 1-29, of the originally filed specification.

New claim 29 depends upon claim 21, and recites that the apparatus includes “at least one inflatable safety shield removably attached to the apparatus” as supported on page 34, lines 19-32, of the originally filed specification. New claim 30 depends upon claim 21, and recites that the apparatus includes “at least one inflatable safety cage removably attached to the apparatus” as supported on page 34, lines 19-32, of the originally filed specification.

New claim 31 depends upon claim 21, and further recites that “at least one said safety shield or safety cage is substantially integral with said apparatus” as supported on page 66, lines 21-23, of the specification as originally filed.

New claim 32 depends upon claim 21, and further recites that “at least one said safety shield or safety cage is inflatable and has one or more interconnecting gas ports to the field-deployable apparatus, said interconnecting gas ports being operable to inflate said safety shield or safety cage simultaneously with said apparatus” as supported by Figure 27 and as supported on page 37, lines 7-17, of the disclosure as originally filed.

New claim 33 depends upon claim 32, and further recites that the “safety shield or cage is removably attached to said apparatus” as supported on page 34, lines 19-32, and on page 67, lines 1-29, of the originally filed specification.

New claim 34 depends upon claim 1, and further recites “one or more rigid rods attached to said apparatus” as supported on page 41, lines 26-31, of the application as originally filed, and as supported by Figure 8, and on page 39, line 24, to page 40, line 2, of U.S. Application No. 10/156,814, which was incorporated by reference by the above-captioned application as originally filed. New claim 35 depends upon claim 34, and further recites that the one or more rods are “removably attached to said apparatus” as supported on page 69, lines 1-5, of the specification as originally filed.

New claim 36 depends upon claim 1, and further recites “a focal point support operable to support one or more items in proximity to a focal point defined by said apparatus” as supported on page 47, lines 15-22, and on page 71, line 1, to page 72, line 36, and as shown in Figures 32A to 32H, of the application as originally filed. New claim 37 depends upon claim 36, and further recites that the focal point support is selected from the group consisting of: two inflatable pressure vessels disposed to support a rod spanning said apparatus; an inflatable safety cage disposed to support a rod spanning said apparatus; an

inflatable safety shield or safety cage disposed to support a cable-stayed support; an inflatable tube stabilized by a plurality of tensioned cable stays; and an adjustable inflatable truss.” as supported on page 68, line 22, to page 69, line 22, and by Figures 29A and 29B, of the application as originally filed.

New claim 38 depends upon claim 36, and further recites that the “focal point support comprises a frame supported by a plurality of cable-stays,” and new claim 39 depends upon claim 38 and further recites that “said frame is selected from the group consisting of: a rigid frame; a self-leveling pivoting frame; a frame comprising a rotatably attached self-leveling pivoting frame; a frame comprising a rotatably attached self-leveling pivoting frame and a device operable to fix or hold the relative position of said frame; a frame with an internally reflective, articulated structure attached to the frame; a flexible wire or cable basket; a bracket or ring; and two brackets or rings attached by an adjustable wire loop” as supported on page 71, line 1, to page 72, line 36, and by Figures 32A to 32H, of the application as originally filed.

New claim 40 depends on claim 36, and further recites “a safety shield or safety cage, wherein said cable-stayed support is attached to, and supported by, said safety shield or safety cage” as supported by Figure 1B of the application as originally filed.

New claim 41 depends upon claim 1, and further recites “wherein one or more of said pressure-deformable membranes are removably attached to said ring support element of said apparatus” as supported on page 48, line 25, to page 49, line 8, and as shown in Figures 5A, 5B and 5C, of the application as originally filed. New claim 42 depends upon claim 41, and additionally recites that the “removably attachable membranes are removably attached to said ring support element of said apparatus using at least one tongue-and-groove fastening mechanism” as supported on page 48, lines 25-36, of the specification as originally filed.

New claim 43 depends upon claim 1, and further recites “wherein said at least one reflector chamber is removably attached to said ring support element of said apparatus” as supported on page 49, lines 9-27, and by Figures 6A and 6B, of the application as originally filed.

New claim 44 depends on claim 1, and further recites additional elements selected from the group consisting of a “support element,” an “inflatable support element,” a “safety shield or cage,” a “focal point support,” an “inflatable focal point support,” an “inflatable cover,” and a “safety cage including a net or mesh” as supported on page 34, line 19, to page 37, line 38; page 47, lines 15-22; page 66, line 21, to page 67, line 18; page 71, line 1, to page 72, line 36; and by Figures 1A, 1B, 1C, 27A to 27C, and 32A to 32H.

New claim 45 depends on claim 1, and further recites “a secondary central inflatable pressure envelope disposed within said reflector chamber,...” as supported on page 56, lines 23-32, and as shown by Figures 16A and 16B, of the application as originally filed.

New claim 46 depends on claim 1, and further recites “wherein one or more of said pressure-deformable membranes comprise a pre-formed reflective membrane having a supporting cord or cable spanning said ring support element to provide a reflective membrane defining a plurality of focal points” as supported on page 56, line 33, to page 57, line 2, and as shown by Figures 17A and 17B, of the application as originally filed.

New claim 47 depends on claim 1 and further recites that “an external surface of the apparatus has a high-emissivity surface” as supported on page 22, lines 25-28, of the specification as originally filed.

New claim 48 depends on claim 1 and further recites that “an external surface of the apparatus has a camouflaged surface” as supported on page 60, lines 31-33, of the specification as originally filed.

New claim 49 depends on claim 1 and further recites that the apparatus “comprises a reflective membrane comprising a surface having a non-paraboloid shape” as supported on page 39, lines 29-35, of the specification as originally filed. New claim 50 depends on claim 1 and further recites that the “apparatus further comprises a reflective membrane comprising a substantially faceted surface” as supported by Figures 12A and 12B, and as supported on page 52, lines 28-37, of the application as originally filed.

New claim 51 depends upon claim 1 and recites the apparatus further comprises “one or more light-attenuator devices operable to attenuate light or radiant electromagnetic energy” as supported on page 36, lines 8-12, of the specification as originally filed.

New claim 52 depends upon claim 1 and recites the apparatus further comprises “one or more support elements disposed to support and orient said apparatus” as supported by Figures 1B, 38A, 38B, 39A, 39B and 39C, and as supported on page 36, lines 4-8, of the application as originally filed.

New claim 53 depends upon claim 1 and recites that the apparatus further comprises “a support element disposed to support and orient said apparatus and an automated sun-tracking apparatus” as supported by Figures 38A, 38B, 39A, 39B and 39C, and on page 76, line 33, to page 77, line 37, of the application as originally filed.

The present amendment adds no new matter to the application.

Applicants' Arguments

In view of the present amendment, claims 1-53 are now in full compliance with 35 U.S.C. § 112.

No prior art rejection stands against the instant claims. Claims 1-20 stand provisionally rejected under the judicially created doctrine of double patenting as being unpatentable over claims 1-14 and 58-62 of U.S. Application No. 10/156,814, which is now U.S. Patent No. 6,897,832 B2. However, Applicants file herewith a terminal disclaimer in compliance with 37 C.F.R. § 1.321(c), which overcomes the issue of obviousness-type double patenting over claims of U.S. Patent No. 6,897,832 B2.

Conclusion


Claims 1-53 are in compliance with 35 U.S.C. § 112. Furthermore, the terminal disclaimer filed herewith and in compliance with 37 C.F.R. § 1.321(c) overcomes any obviousness-type double patenting asserted over claims of U.S. Patent 6,897,832 B2.

For all of the above reasons, claims 1-53 are in condition for allowance and a prompt Notice of Allowance is earnestly solicited.

The below-signed attorney for Applicants welcomes any questions.

Respectfully submitted,

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APPENDIX

Thirty-three (33) Replacement Sheets, along with corresponding annotated sheets, are attached herewith.

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings include changes to Figures 1A, 1B, 1C, 2A, 2B, 2C, 3A, 3B, 3C, 3D, 3E, 3F, 3G, 5C, 6C, 26, 27A, 27B, 27C, 27D, 29A, 29B, 31A, 31B, 31C, 31D, 32A, 32B, 32C, 32D, 32E, 32F, 32G, 33A, 33B, 34A, 34B, 34C, 34D, 35A, 35B, 36, 37, 28A, 38B, 39A, 39B, 39C, 40A, 40B, 40C and 40D. In addition, Figures 2D, 4A, 4B and 4C have been added.

In particular, Figure 1A has been amended to include reference characters “600,” “610,” “612,” “614,” “616,” and “620.” Figure 1B has been amended to include reference characters “26,” “28,” “30,” “600,” “610,” “612,” “614,” “616,” “618” and “620.” Figure 1C has been amended to include reference characters “600,” “610,” “612,” “614,” “616,” “618” and “620.” Figures 2A, 2B, 2C, 3A and 3B have been amended to replace the character reference “10” with the new character reference --610-- and to replace character reference “16” with --17--. Figure 3C has been amended to include reference characters “28” and “610.” Figure 3D has been amended to include reference characters “14,” “17,” “20,” “28,” and “610.” Figure 3E has been amended to include reference characters “20,” “28,” and “610.” Figure 3F has been amended to include reference characters “14,” “17,” “20,” “26,” “28,” and “610.” Figure 3G has been amended to include reference characters “14,” “17,” “20,” “28,” and “610.” Figures 5C and 6C have been amended to remove extraneous markings.

New Figure 2D corresponds to Figure 8 of the parent U.S. Application No. 10/156,814, which was incorporated by reference by the specification of the above-captioned patent application. Therefore, Applicants have incorporated Figure 8 of U.S. Application No. 10/156,814 as new Figure 2D of the present application.

New Figure 4A corresponds to Figure 51 of the parent U.S. Application No. 10/156,814, which was incorporated by reference by the specification of the above-captioned

patent application. Therefore, Applicants have incorporated Figure 51 of U.S. Application No. 10/156,814 as new Figure 4A of the present application. Figure 4A also includes character reference "24" and character reference --386-- replaces character reference "398."

New Figure 4B corresponds to Figure 58A of the International Application No. PCT/US02/16918, filed May 30, 2002, and which was incorporated by reference by the specification of the above-captioned patent application. Therefore, Applicants have incorporated Figure 58A of International Application No. PCT/US02/16918 as new Figure 4B of the present application. Figure 4B also include character reference "28." New Figure 4C corresponds to Figure 59 of the International Application No. PCT/US02/16918, filed May 30, 2002, and which was incorporated by reference by the specification of the above-captioned patent application. Therefore, Applicants have incorporated Figure 59 of International Application No. PCT/US02/16918 as new Figure 4C of the present application.

Figures 26, 27A, 27B, 27C, 27D, 29A, 29B, 31A, 31B, 31C, 31D, 32A, 32B, 32C, 32D, 32E, 32F, 32G, 33A, 33B, 34A, 34B, 34C, 34D, 35A, 35B, 36, 37, 38A, 38B, 39A, 39B, 39C, 40A, 40B, 40C and 40D, respectively, have been relabeled as Figures 18, 19A, 19B, 19C, 19D, 20A, 20B, 21A, 21B, 21C, 21D, 22A, 22B, 22C, 22D, 22E, 22F, 22G, 23A, 23B, 24A, 24B, 24C, 24D, 25A, 25B, 26, 27, 28A, 28B, 29A, 29B, 29C, 30A, 30B, 30C and 30D.

The presently amended drawings add no new matter to the application.

Attachment: Thirty-three (33) Replacement Sheets
 Annotated Sheets Showing Changes

ANNOTATED SHEET

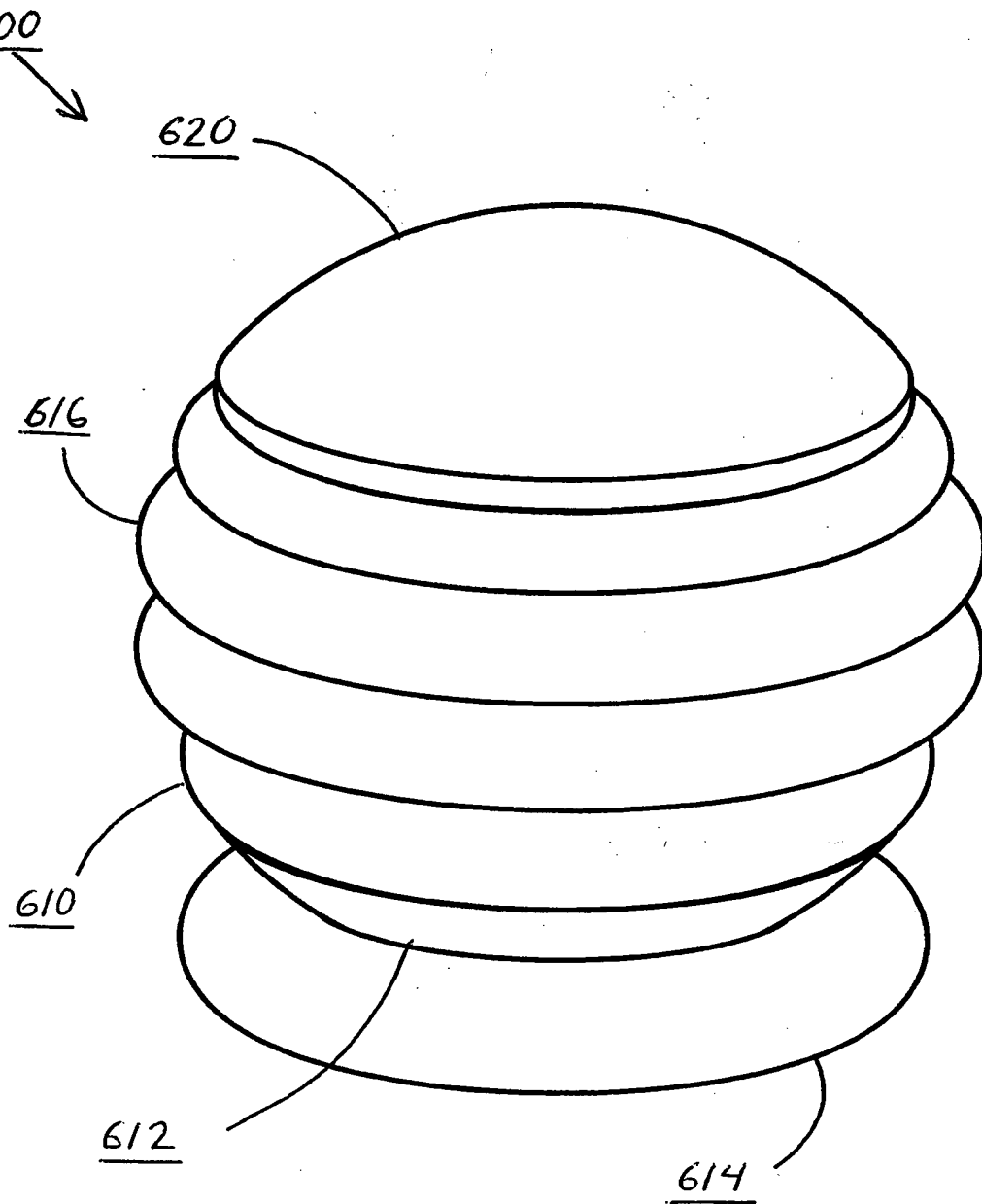


FIG. 1A

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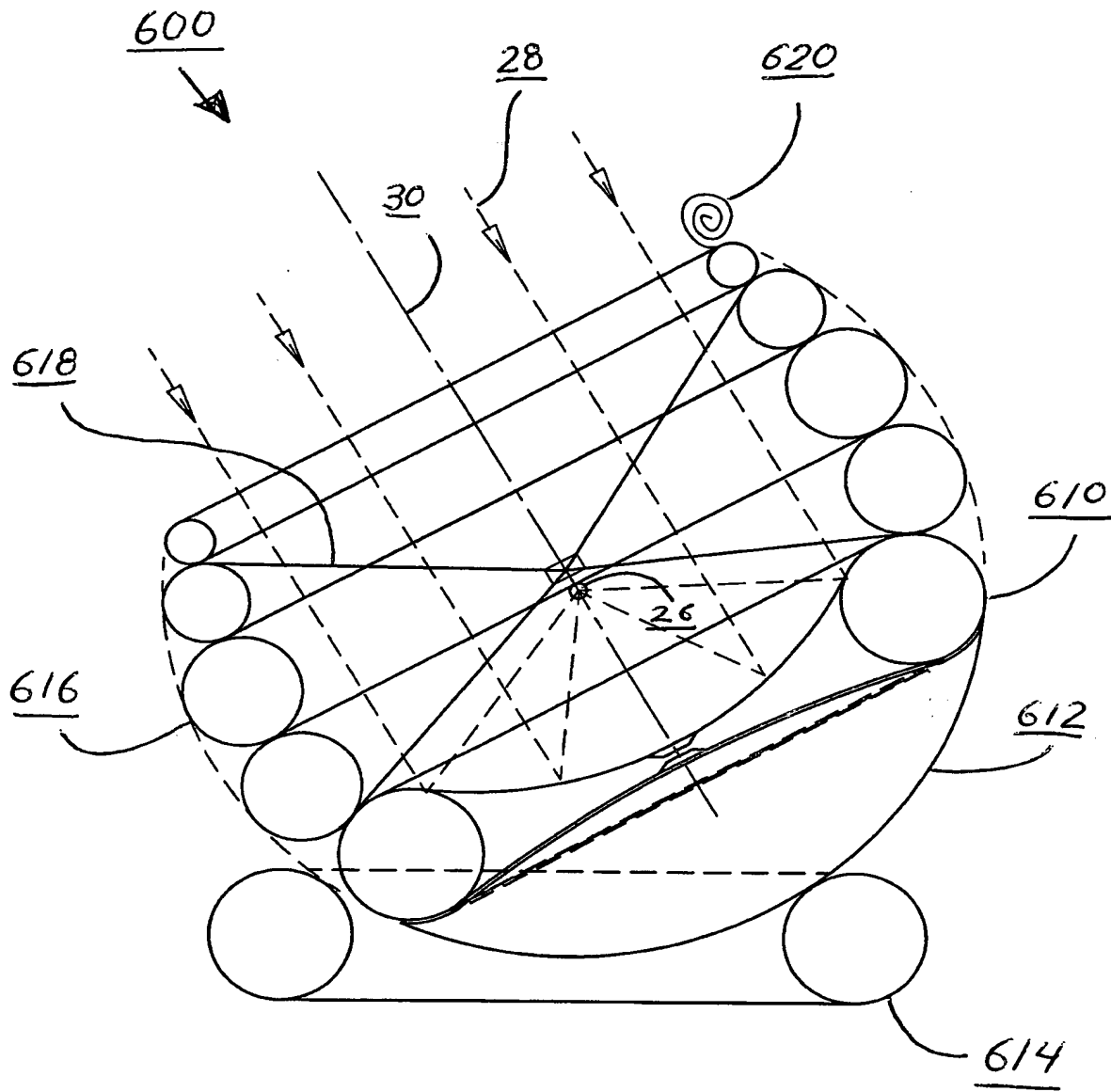


FIG. 1B

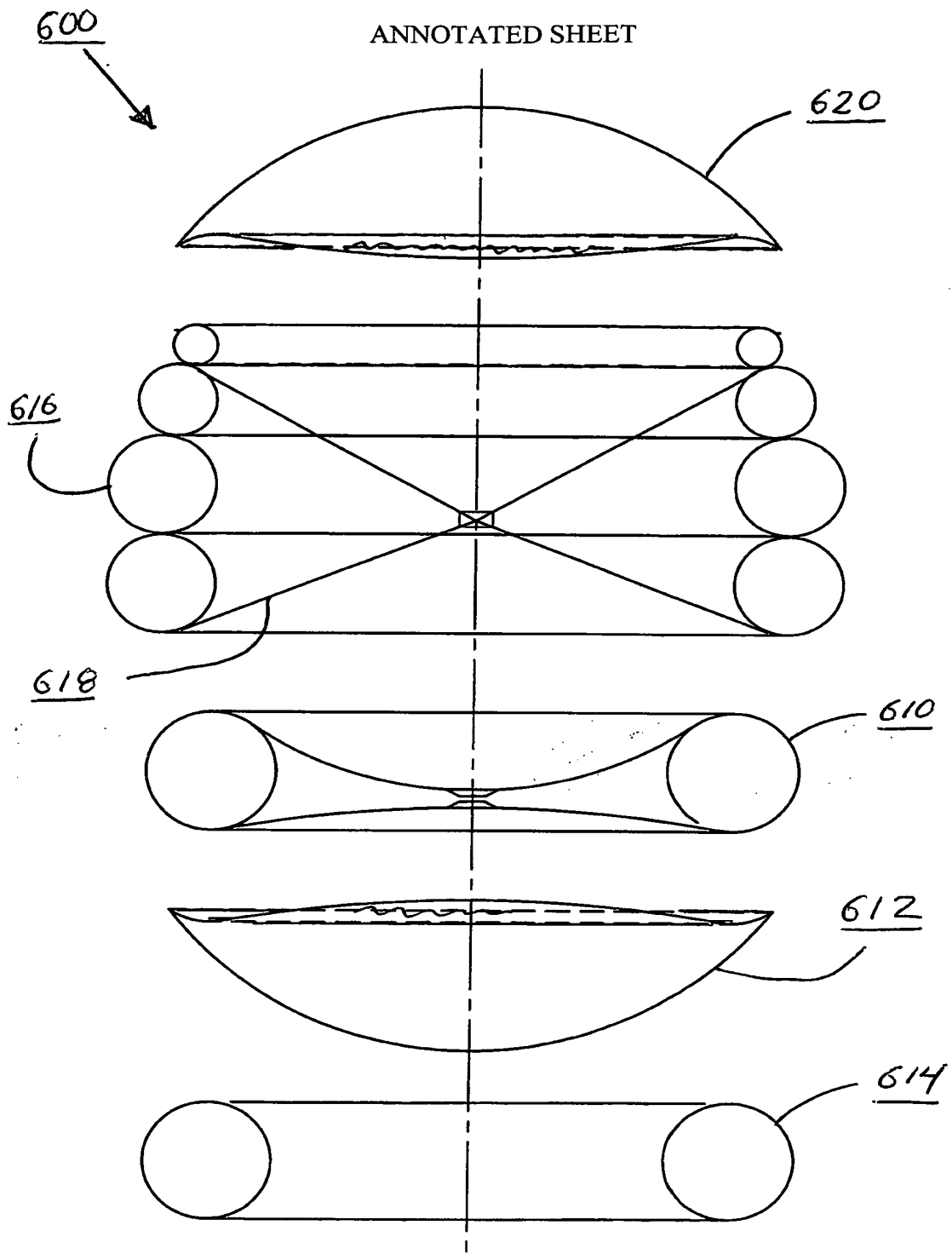


FIG. 1C

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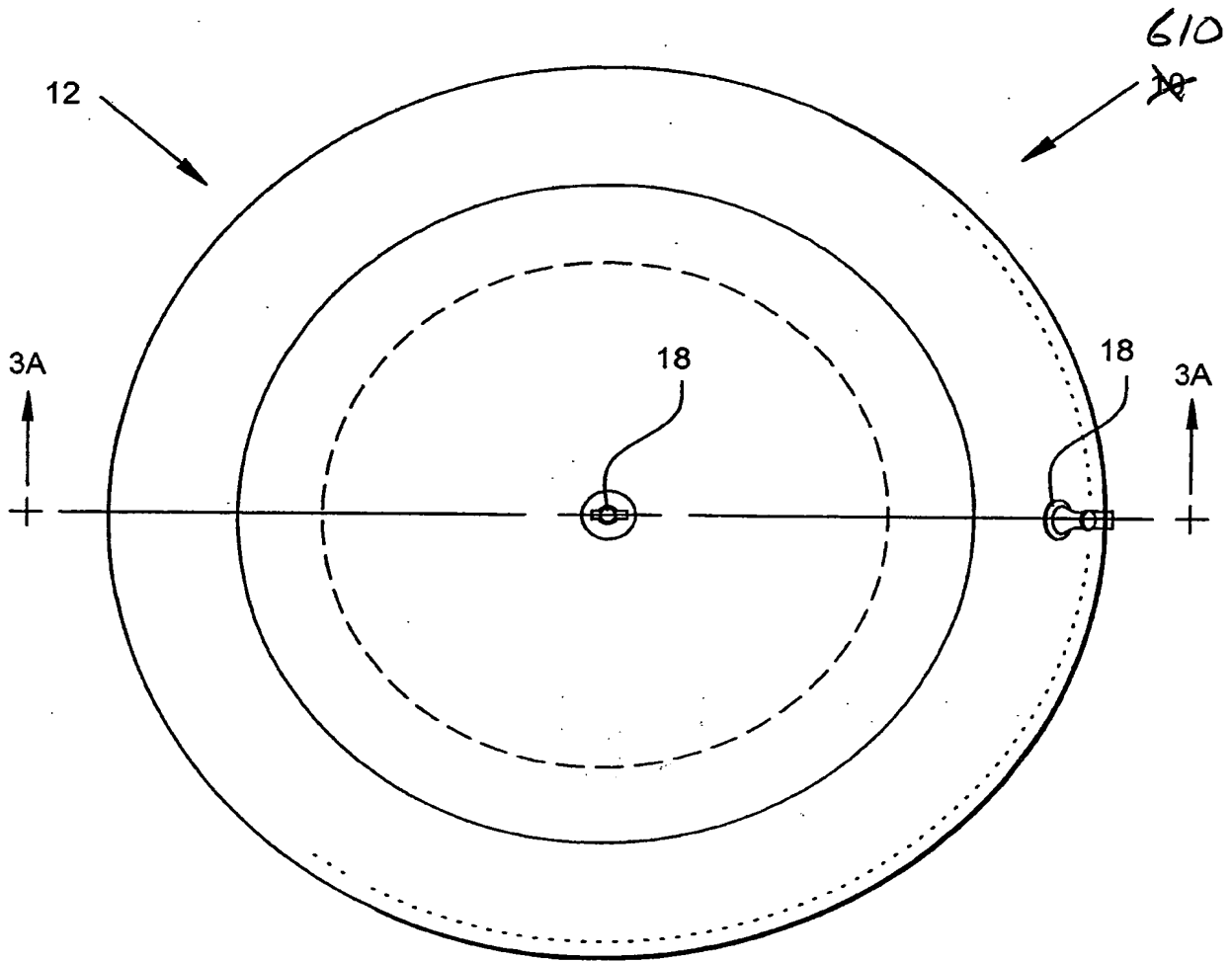


FIG. 2A

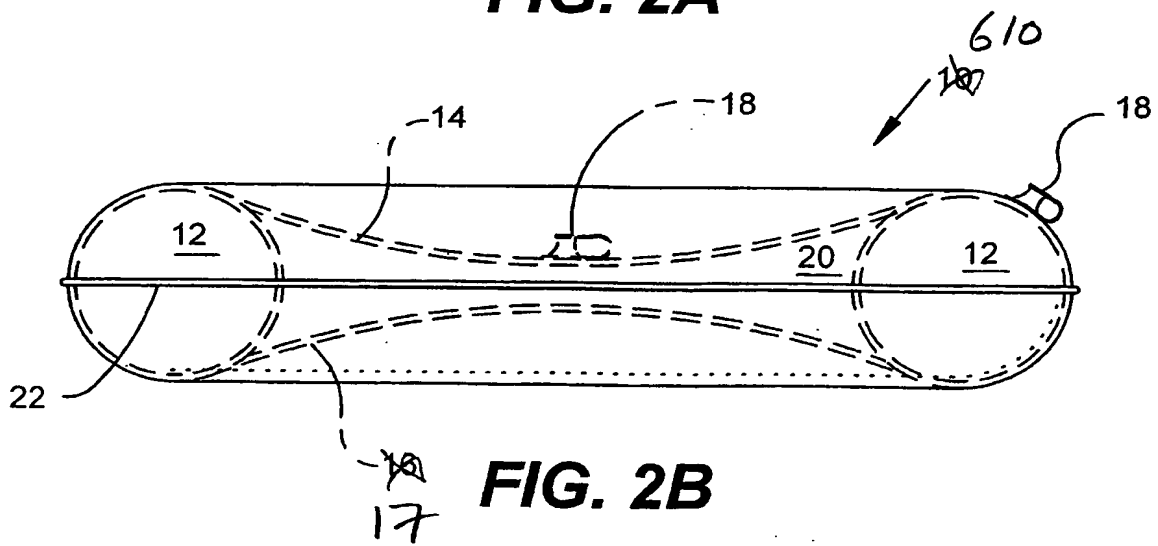


FIG. 2B

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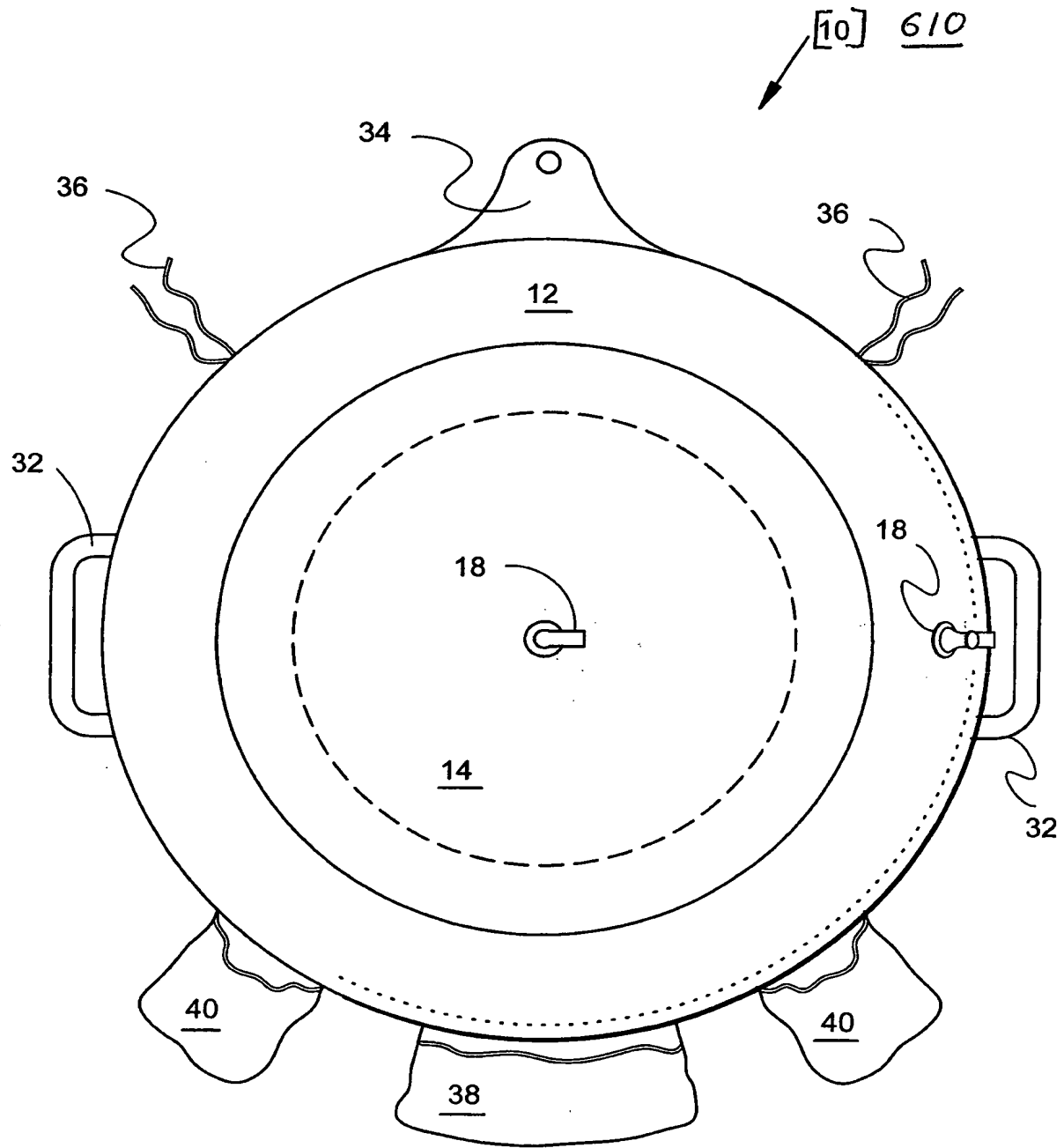


FIG. 2C

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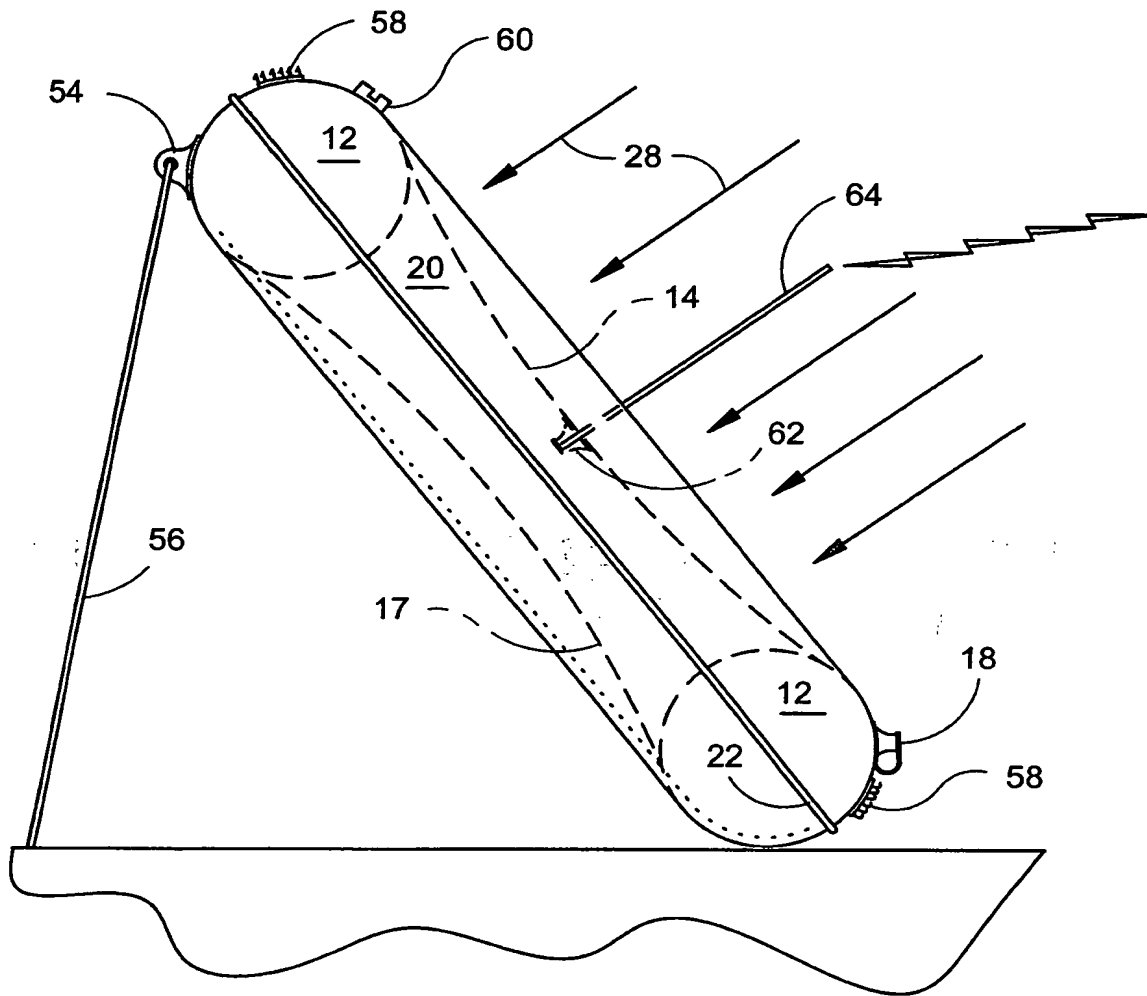


FIG. 2D

FIG. 3B

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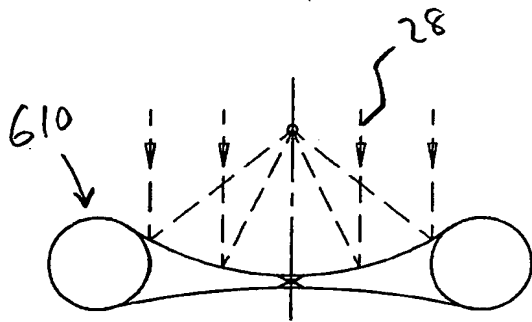


FIG. 3C

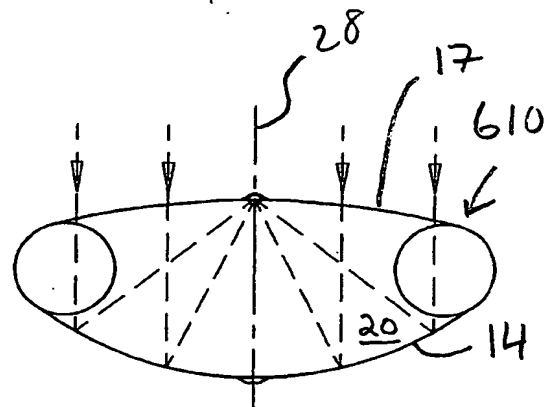


FIG. 3D

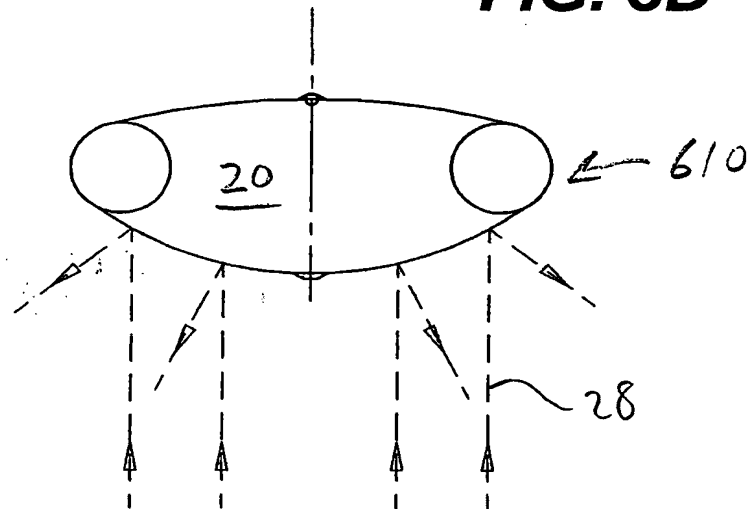


FIG. 3E

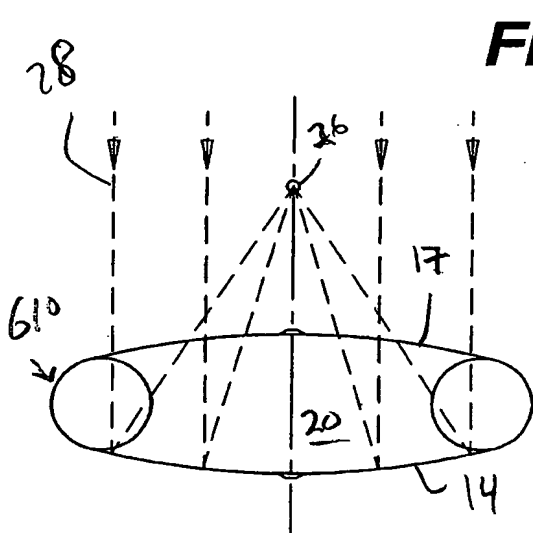


FIG. 3F

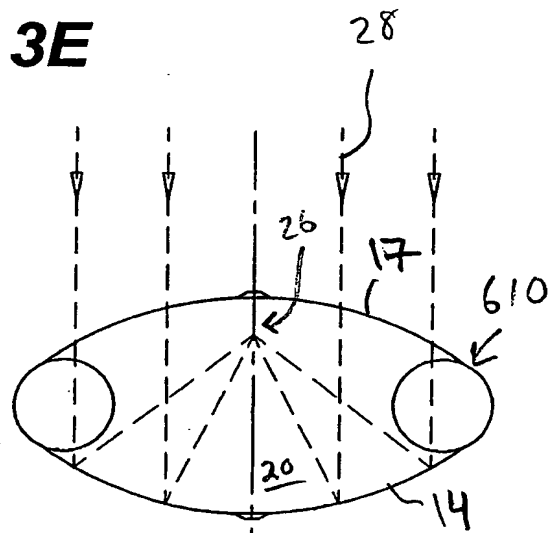
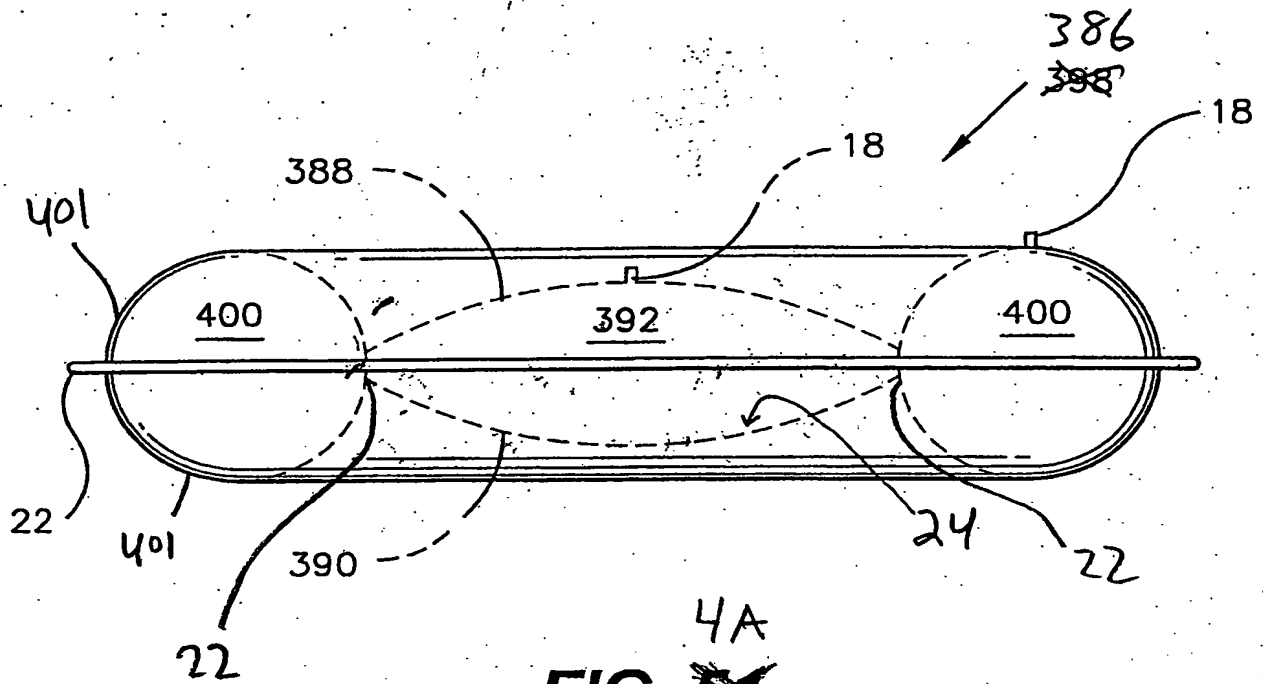
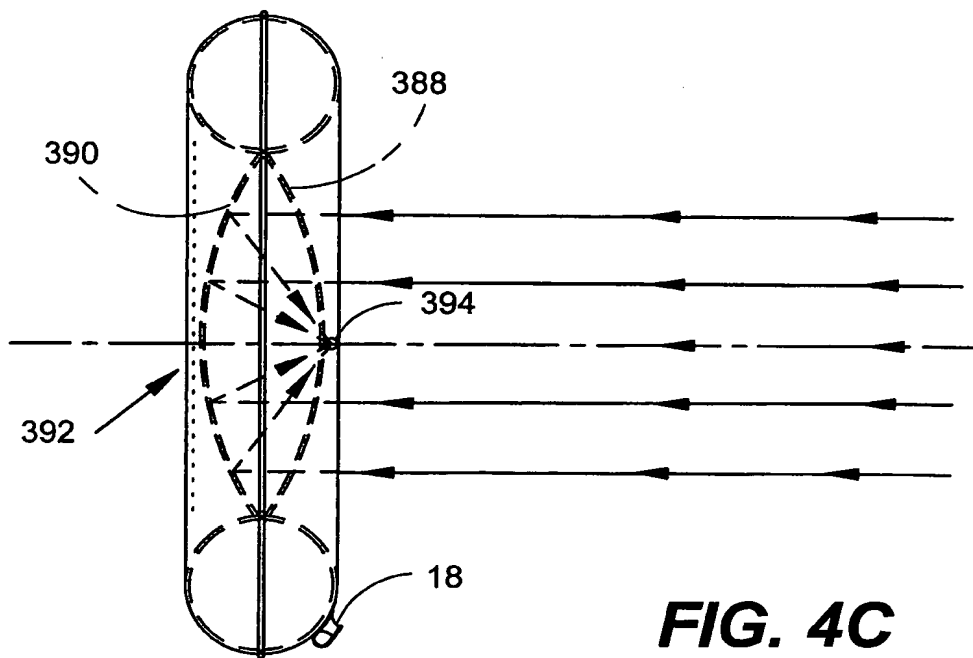
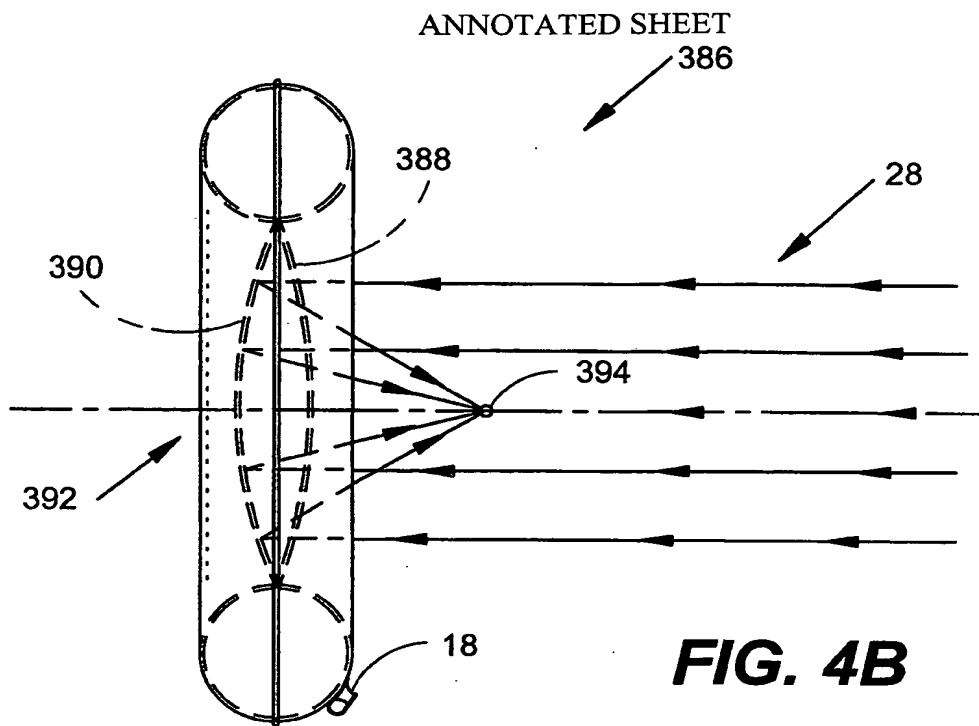


FIG. 3G

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4A
FIG. 5A



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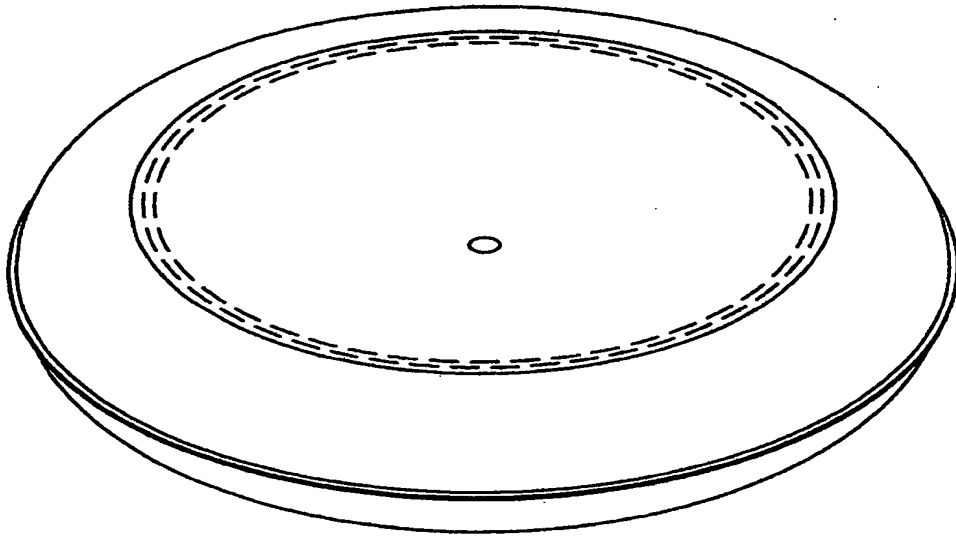


FIG. 5A

5C

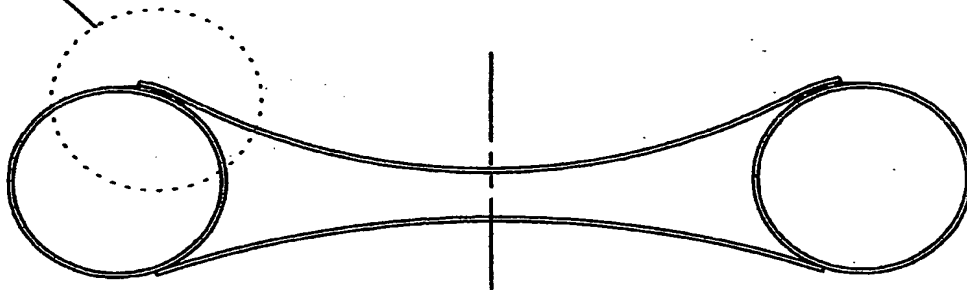


FIG. 5B

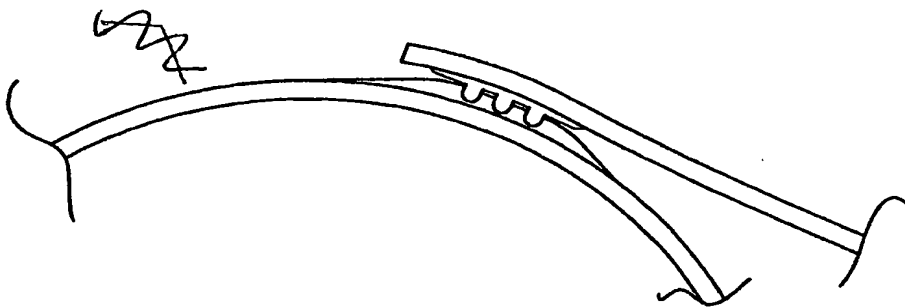


FIG. 5C

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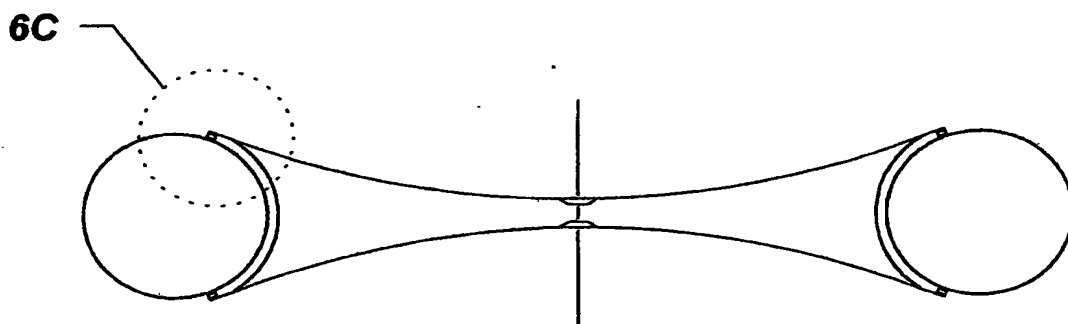


FIG. 6A

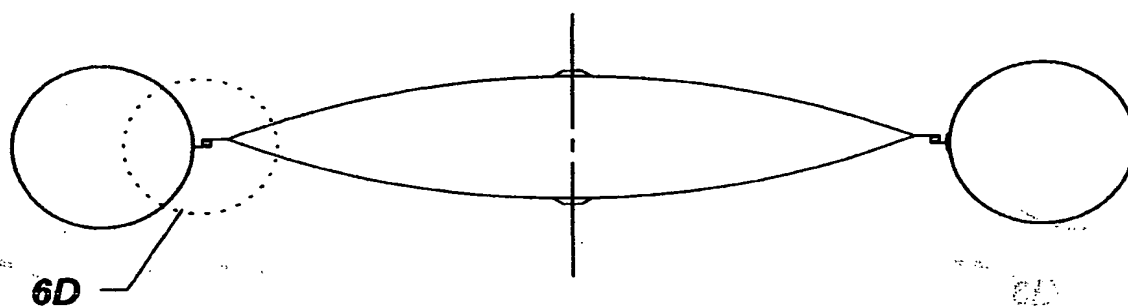


FIG. 6B

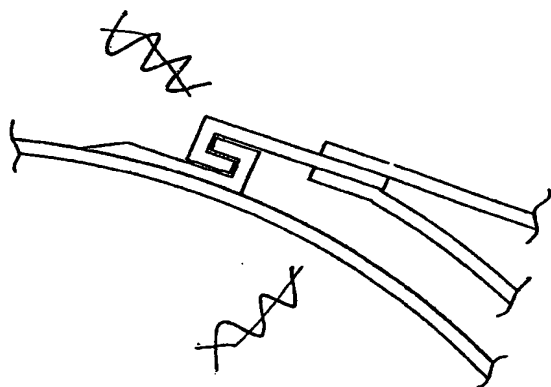


FIG. 6C

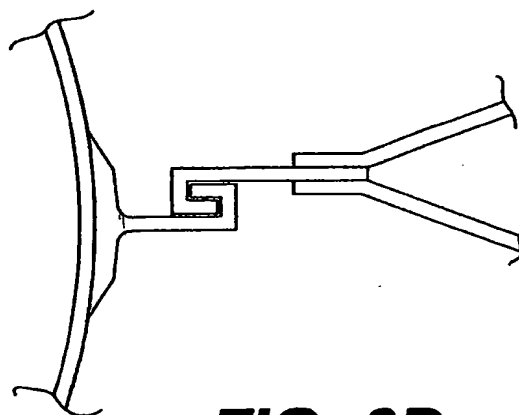


FIG. 6D

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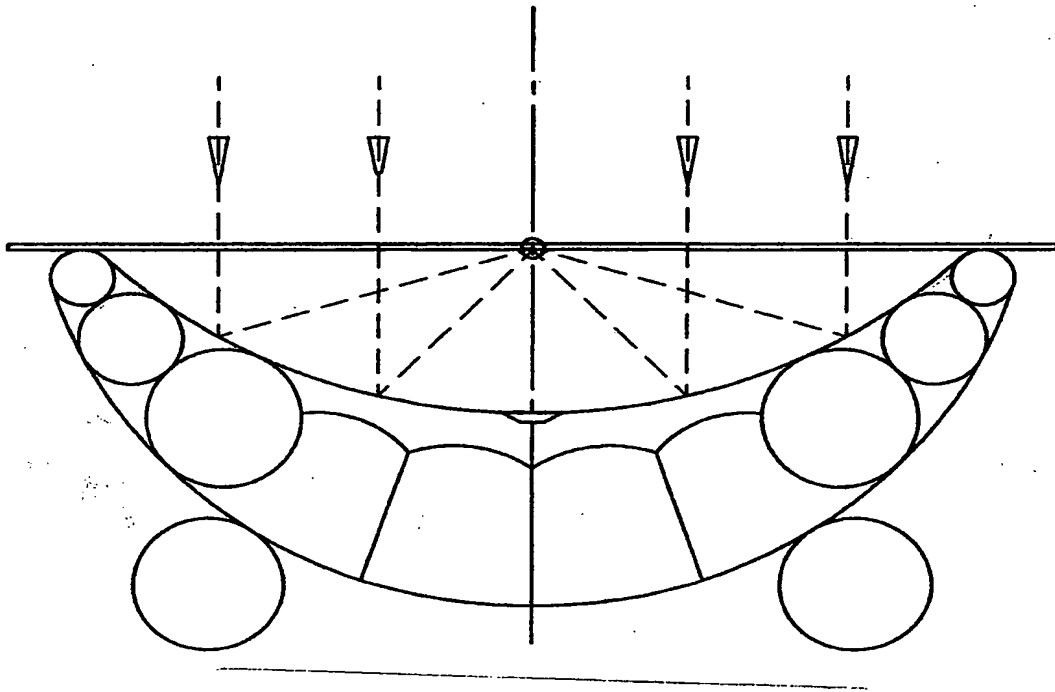


FIG [26]

18

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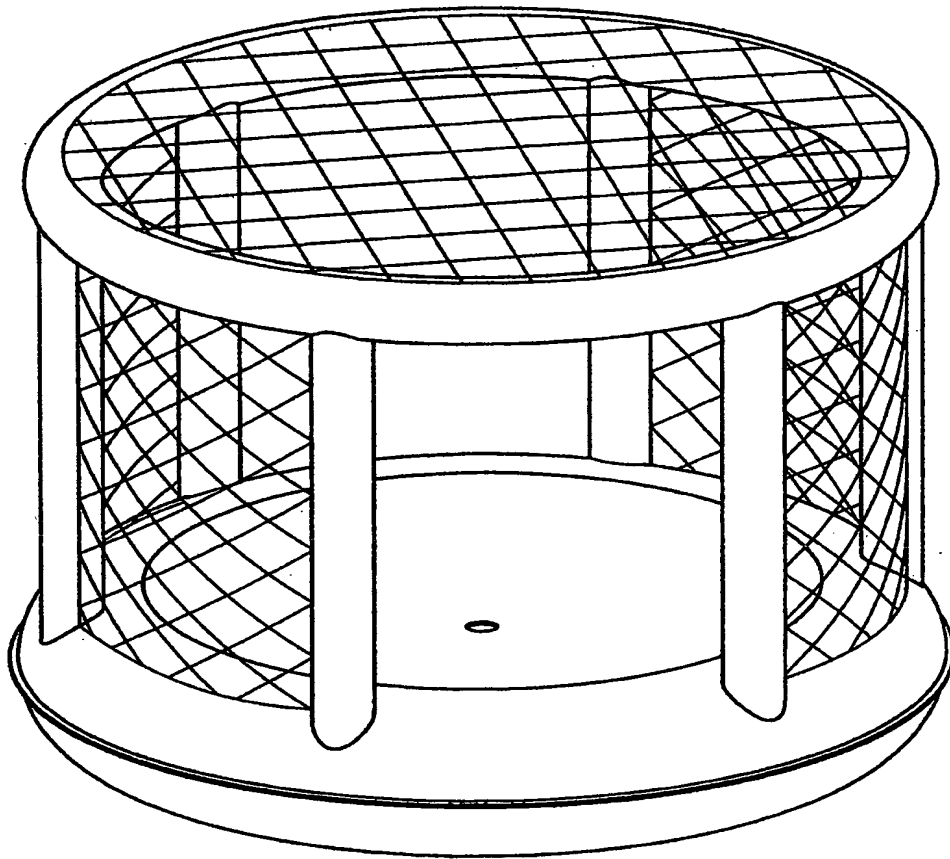


FIG. [27A]

19A

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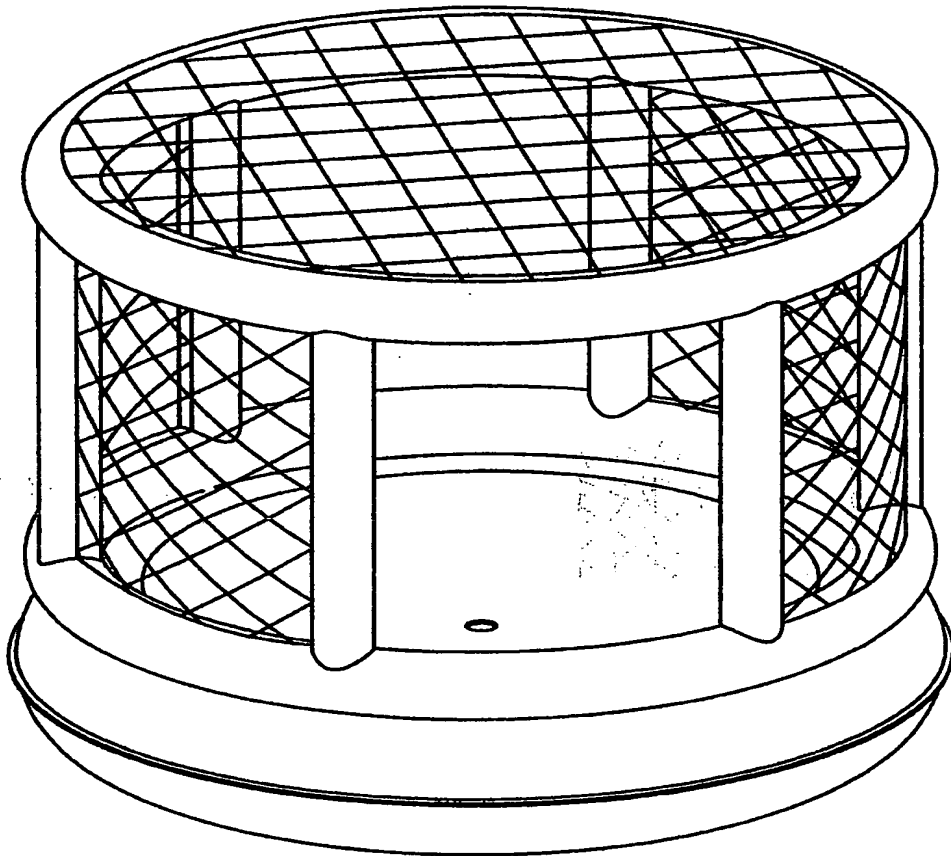


FIG. [27B]

19B

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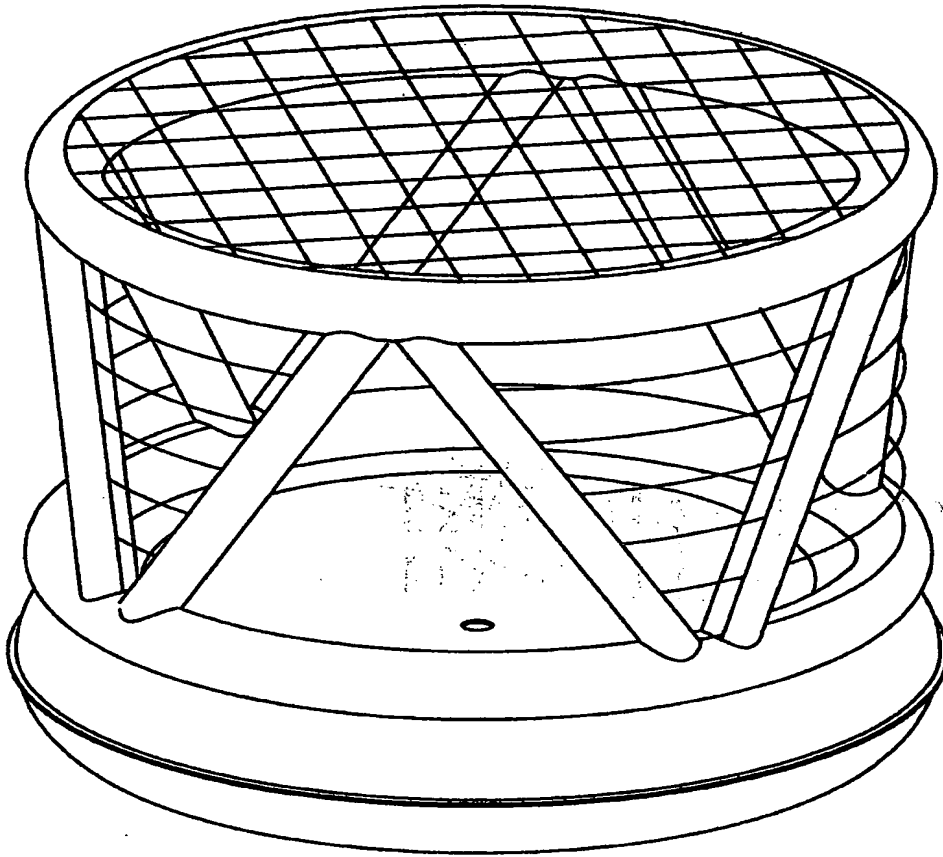


FIG. [27C]
19C

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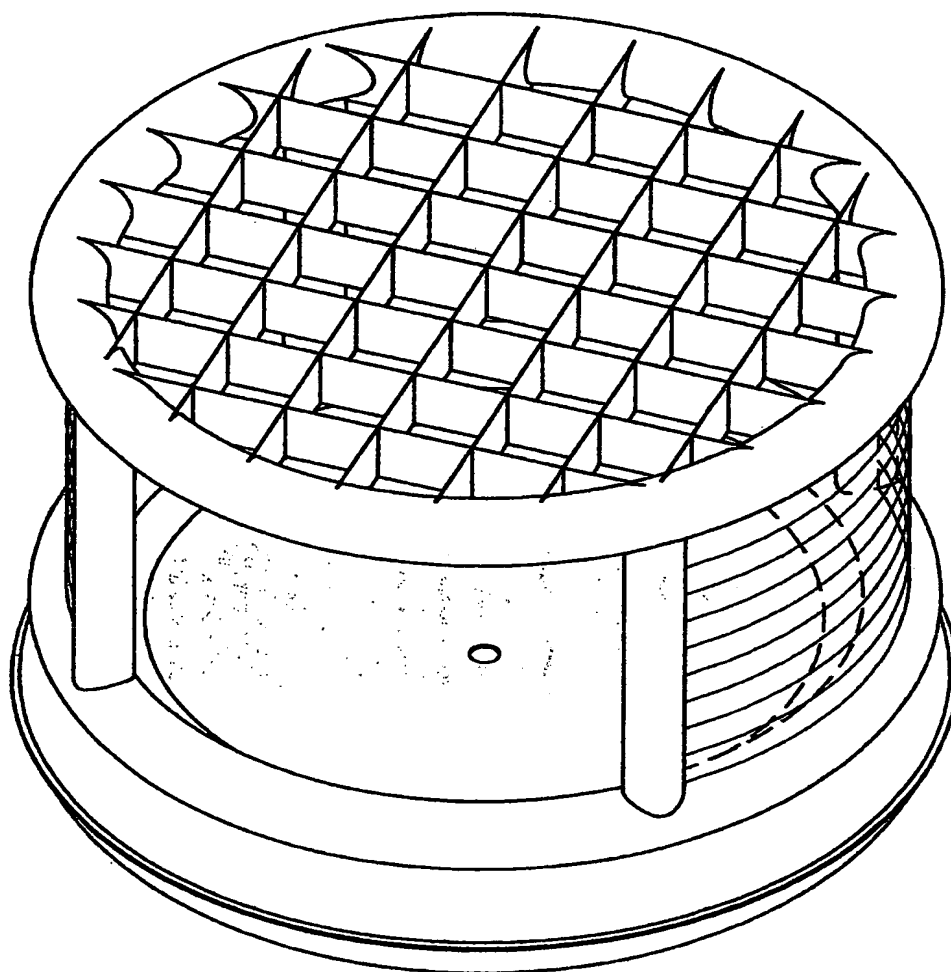


FIG. [27 D]

19D

ANNOTATED SHEET

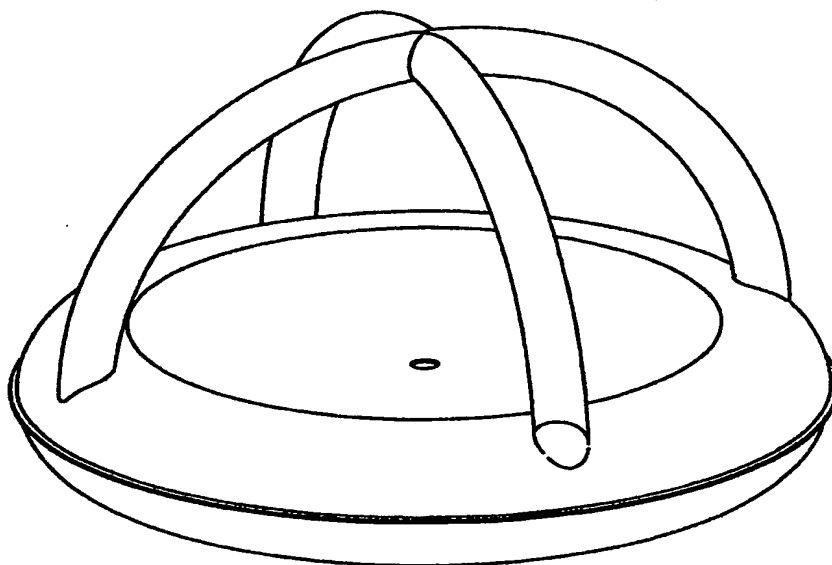


FIG. [29A]
20A

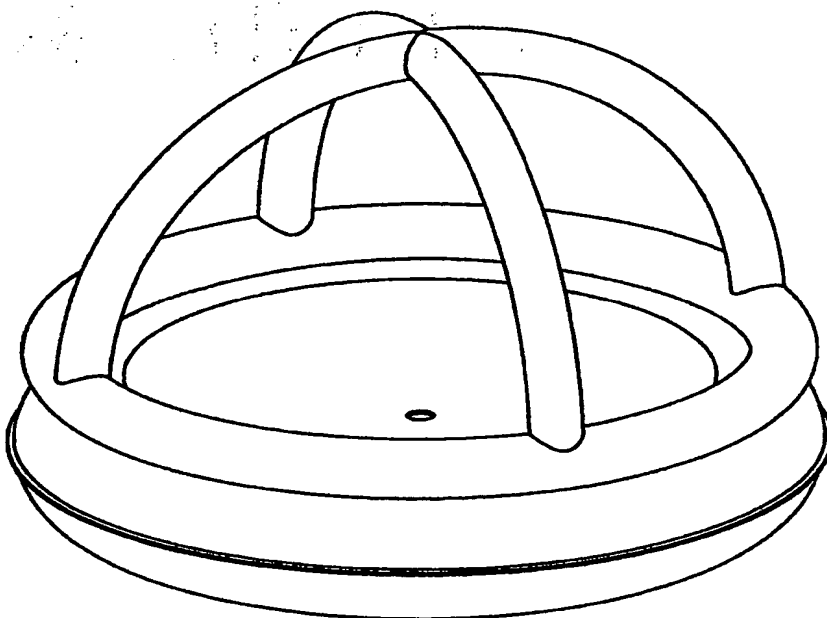


FIG. [29B]
20B

ANNOTATED SHEET

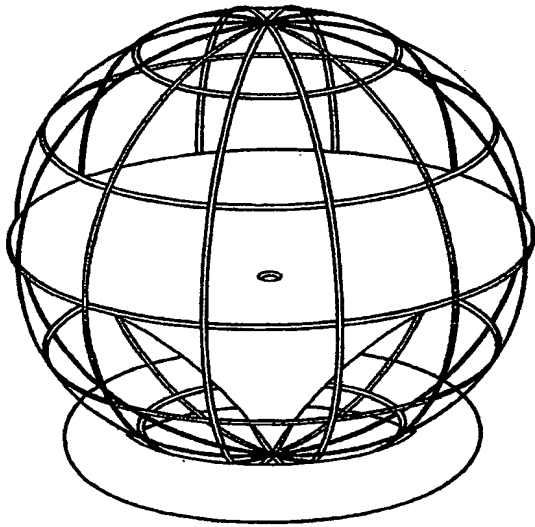


FIG. [31A]
2/A

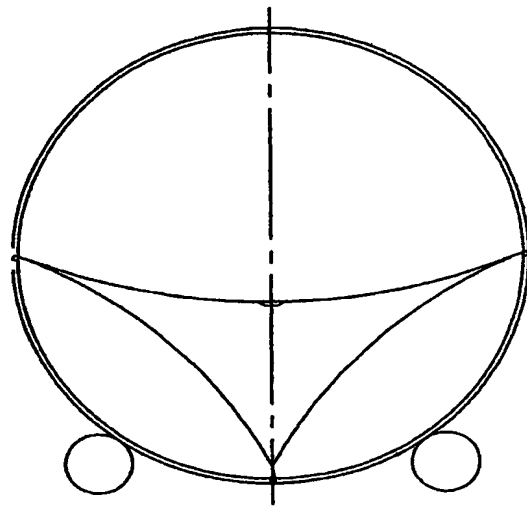


FIG. [31B]
2/B

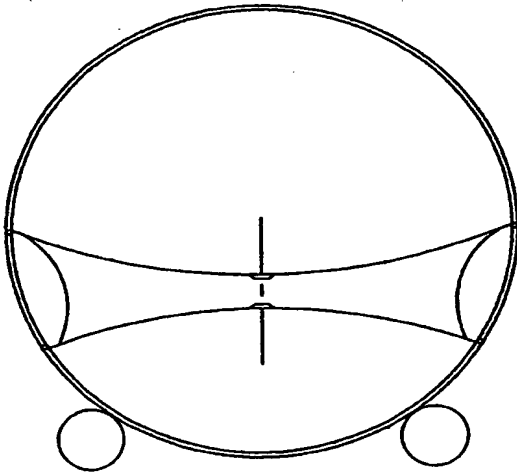


FIG. [31C]
2/C

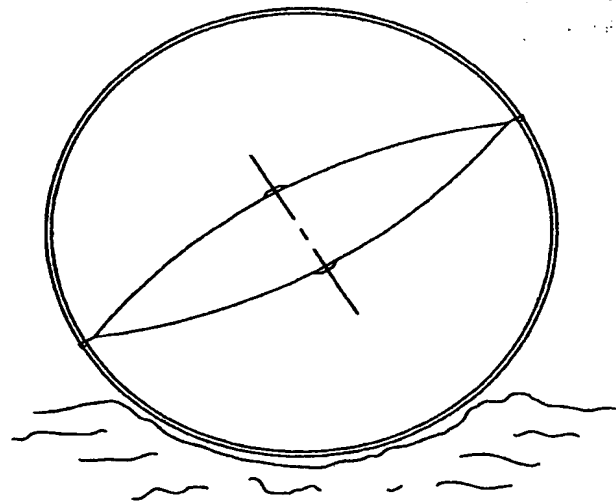


FIG. [31D]
2/D

ANNOTATED SHEET

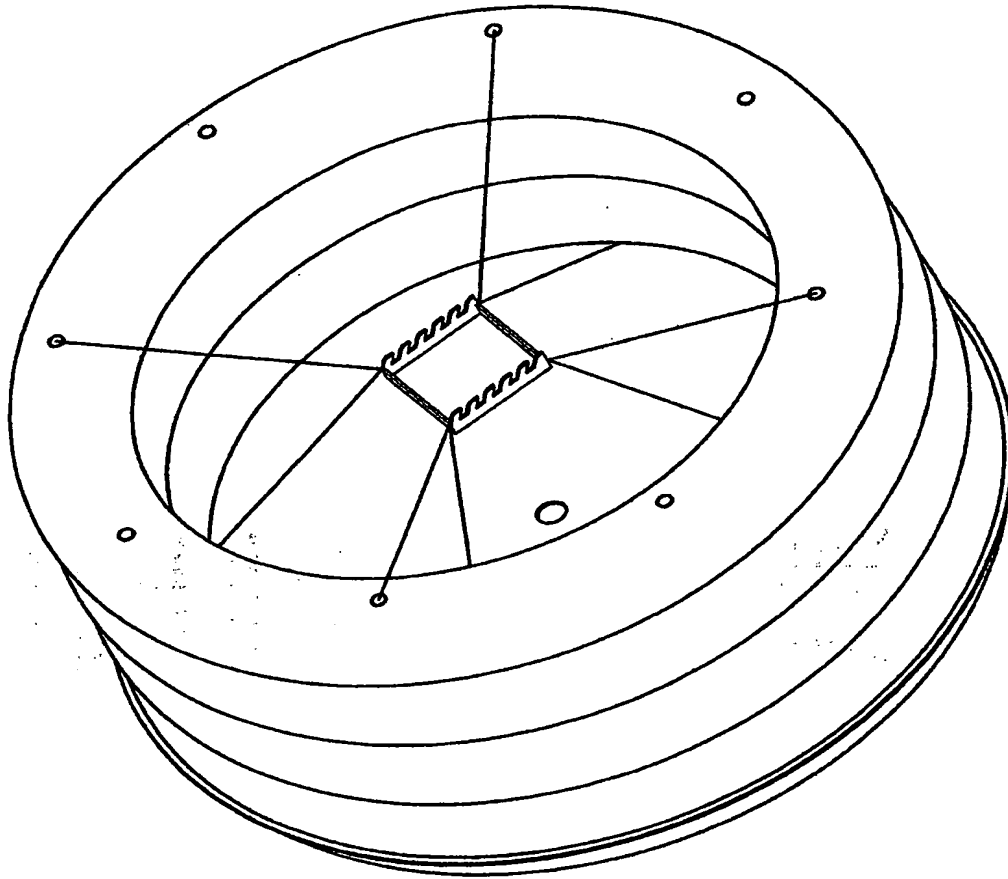


FIG. [32 A]
22 A

ANNOTATED SHEET

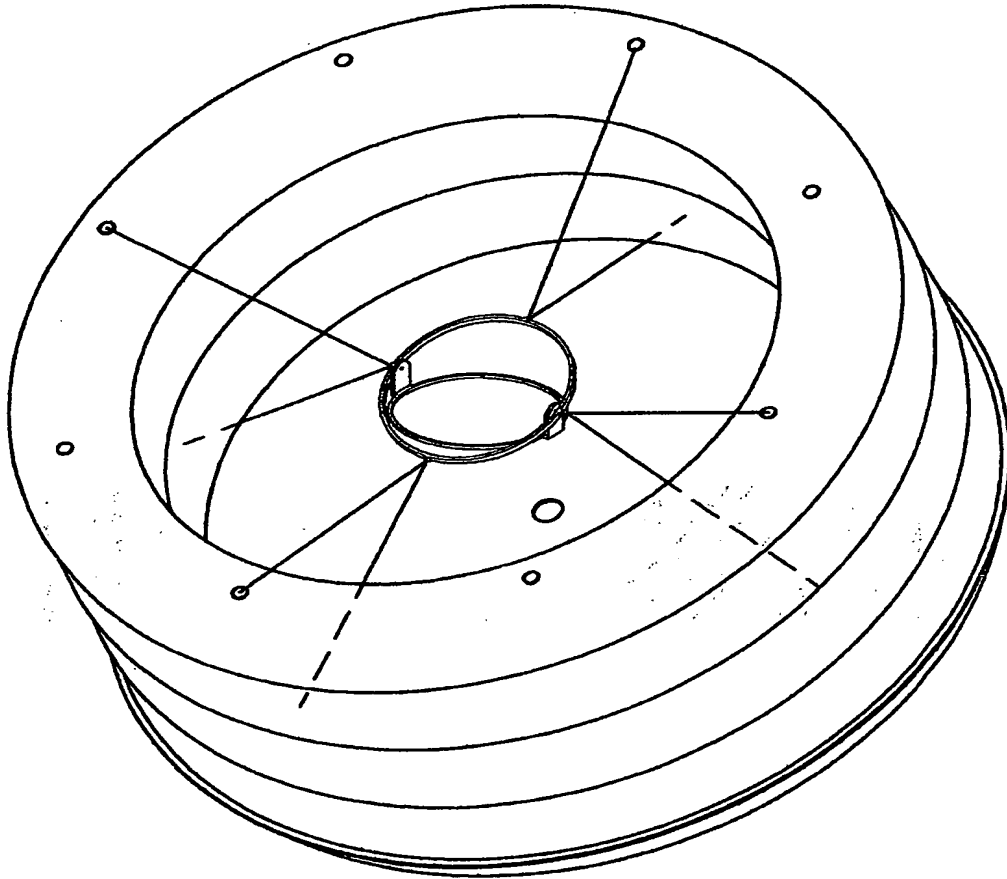


FIG. [32B]
22B

ANNOTATED SHEET

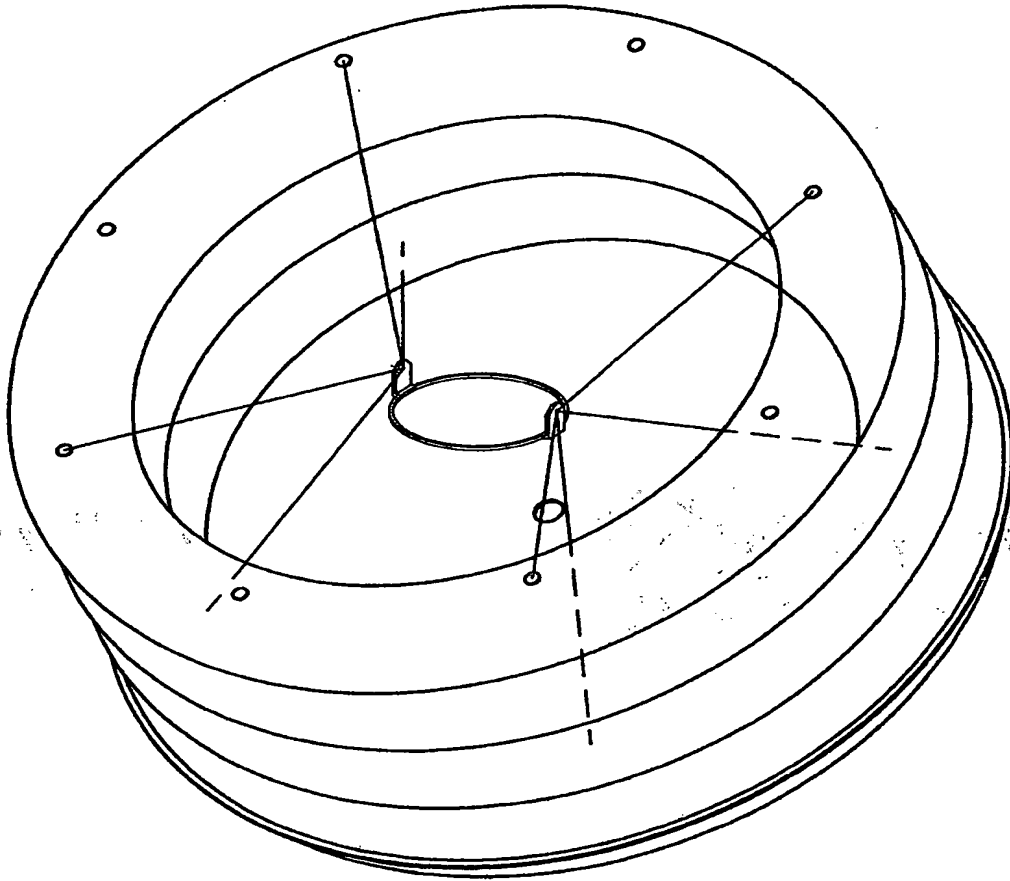


FIG. [32 C]
22C

ANNOTATED SHEET

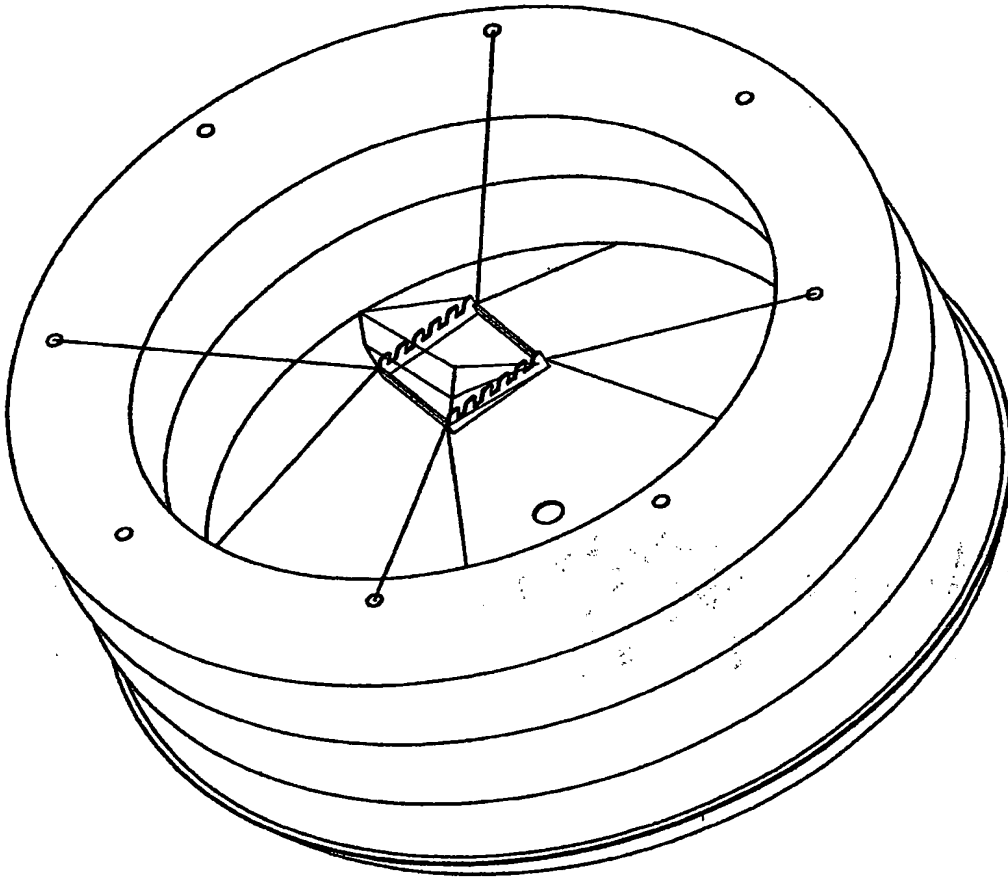


FIG. [32 D]

22 D

ANNOTATED SHEET

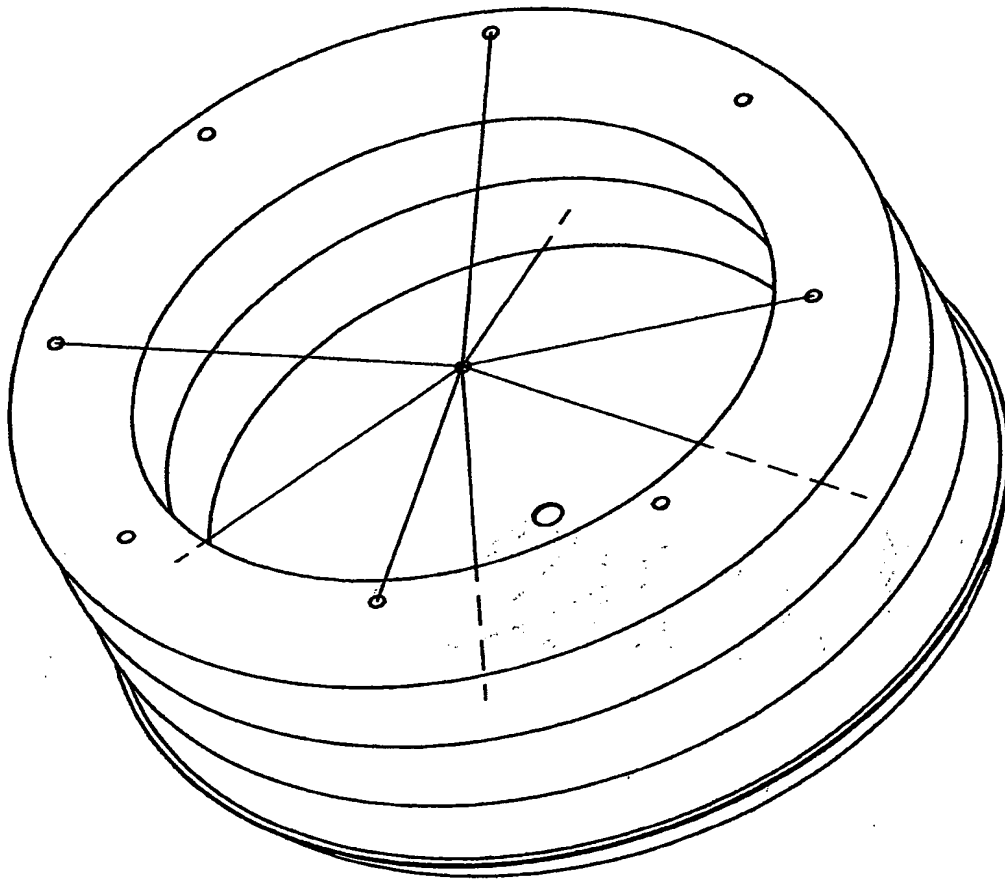


FIG. [32 E]
22E

ANNOTATED SHEET

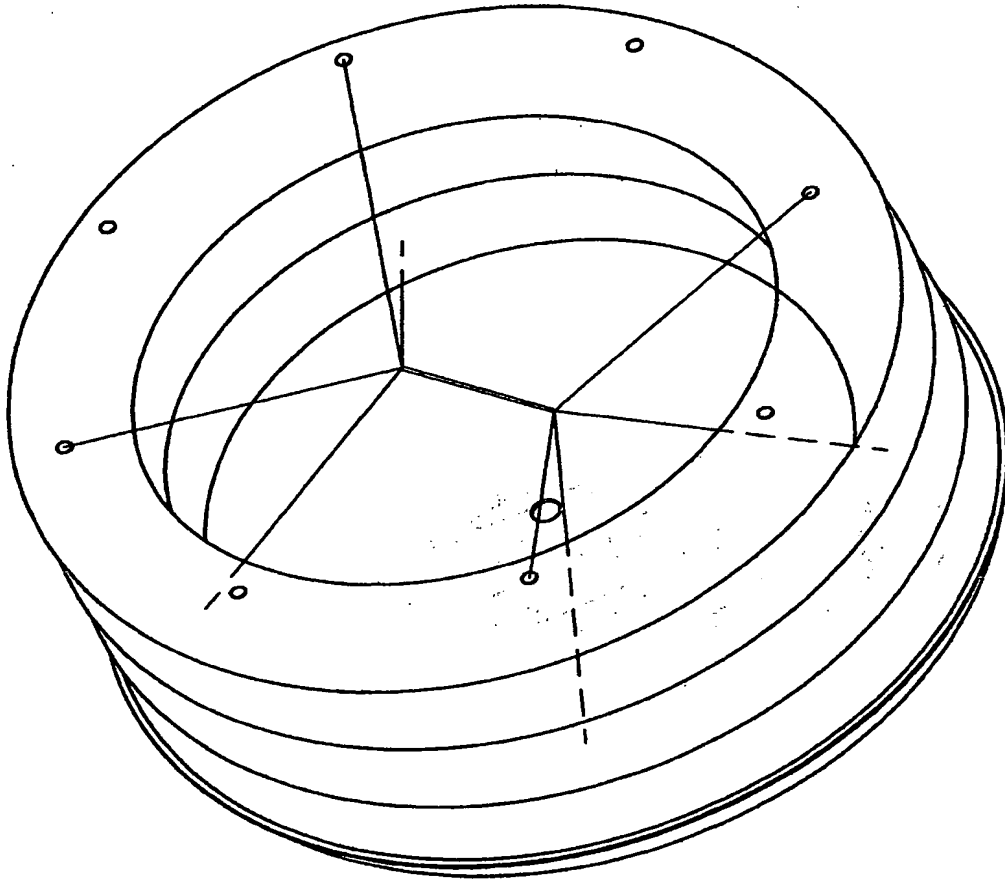


FIG. [32 F]
22F

ANNOTATED SHEET

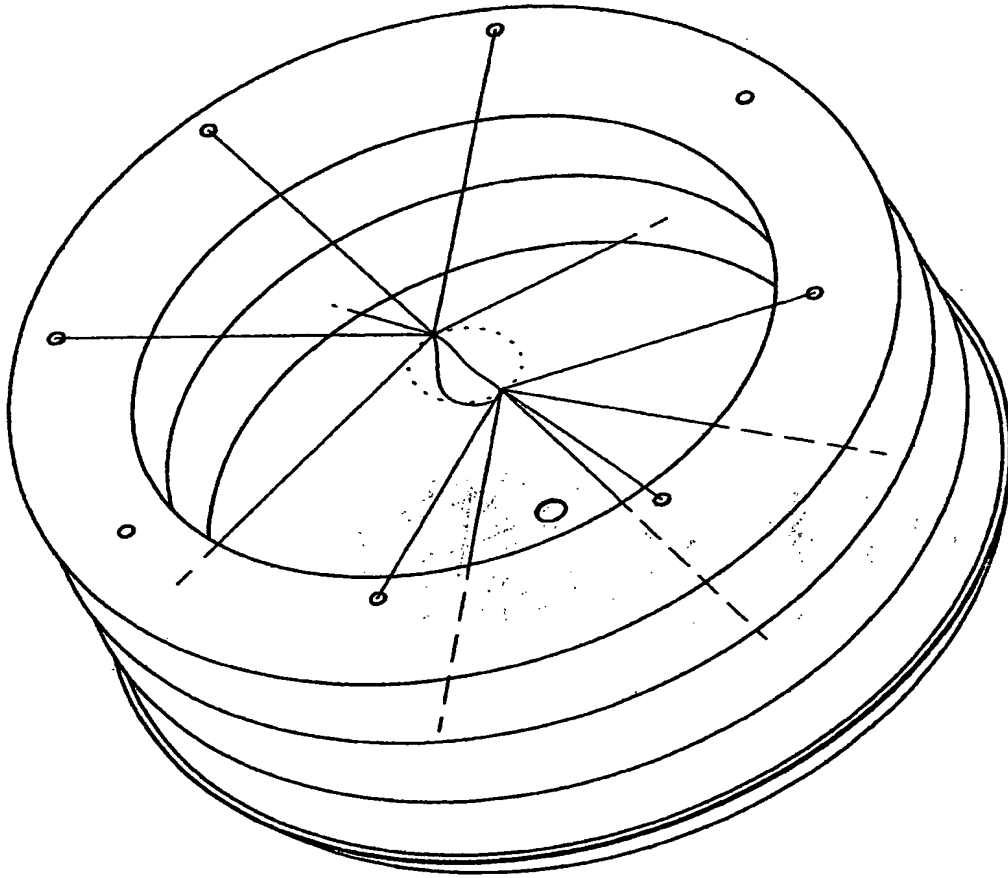


FIG. [32 5]
22G

ANNOTATED SHEET

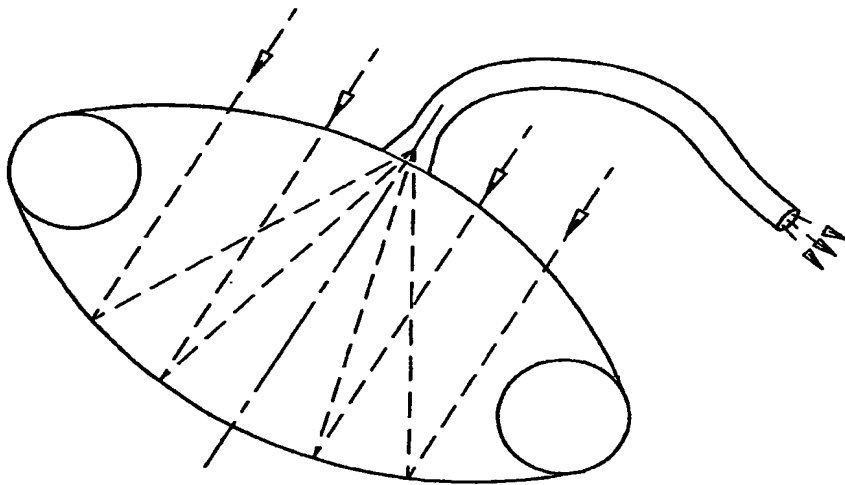


FIG. [33A]
23A

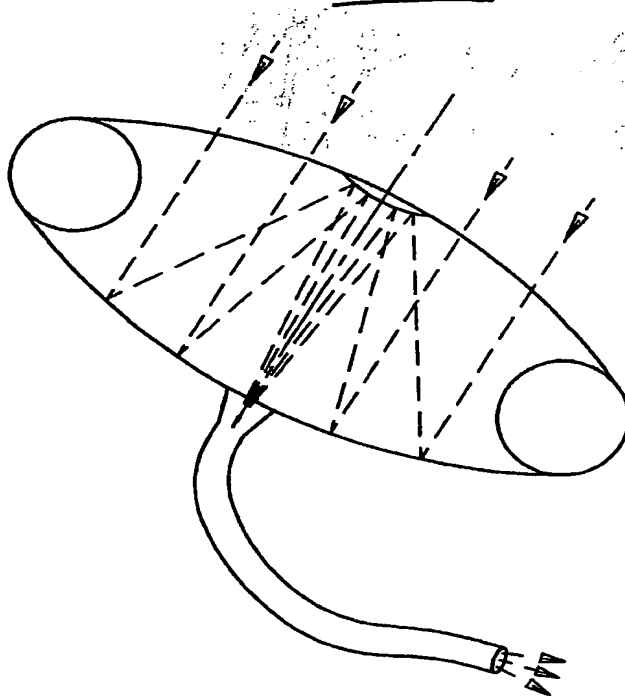


FIG. [33B]
23B

ANNOTATED SHEET

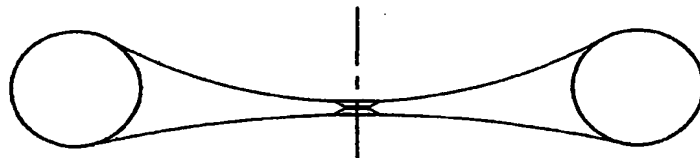


FIG. [34A]

24A

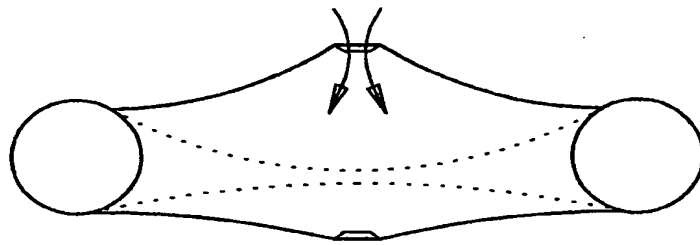


FIG. [34B]

24B

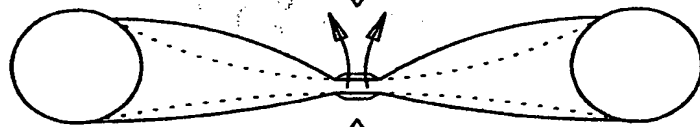


FIG. [34C]

24C

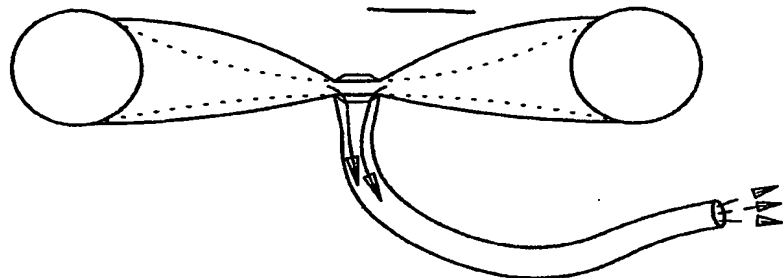


FIG. [34D]

24D

ANNOTATED SHEET

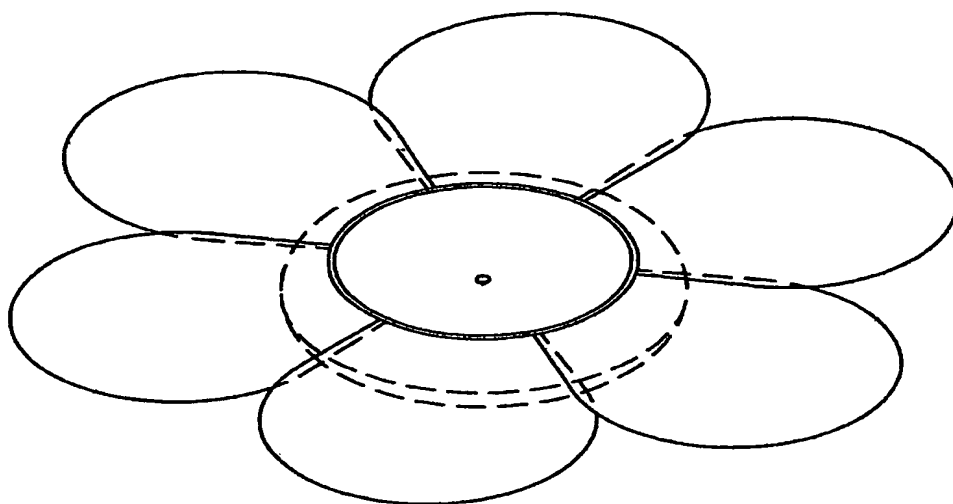


FIG. [35A]

25A

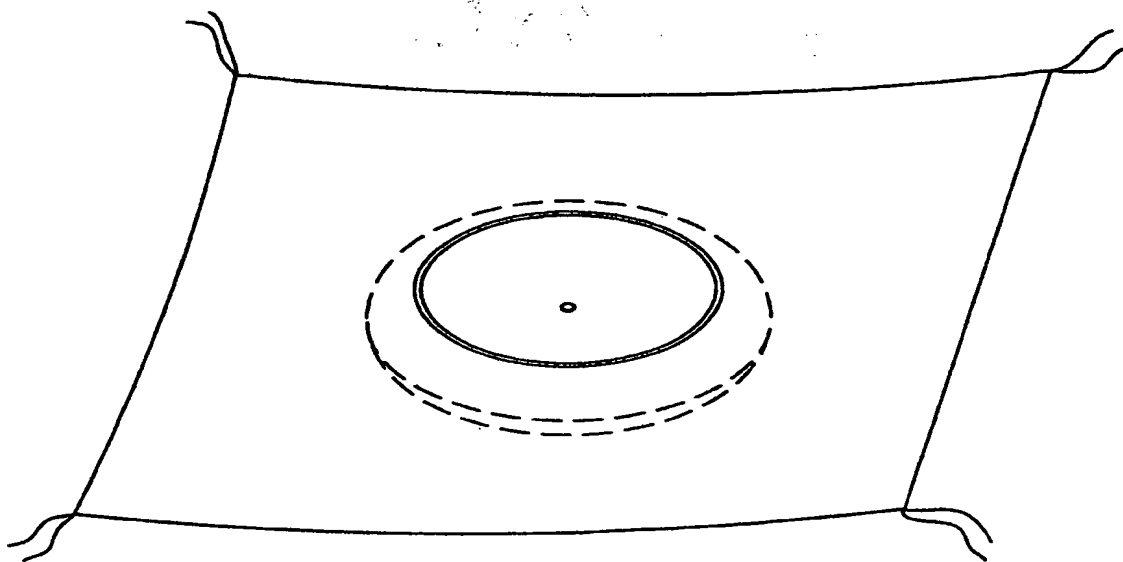


FIG. [35B]

25B

ANNOTATED SHEET

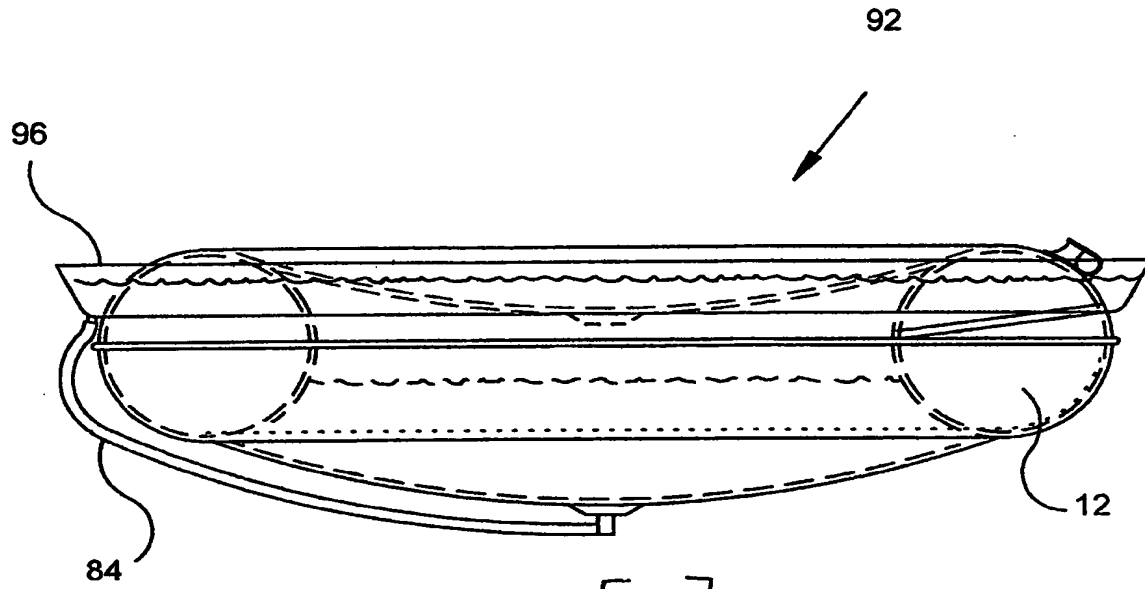


FIG. [36]
26

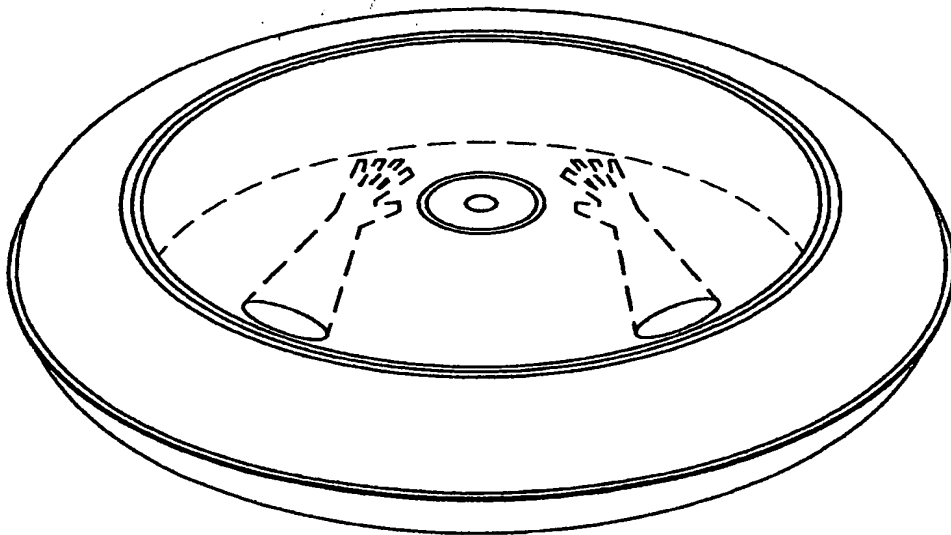


FIG. [37]
27

ANNOTATED SHEET

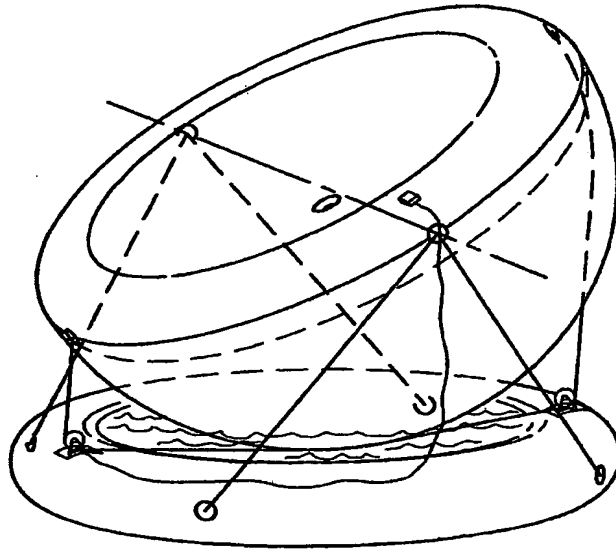


FIG. [38A] 28A

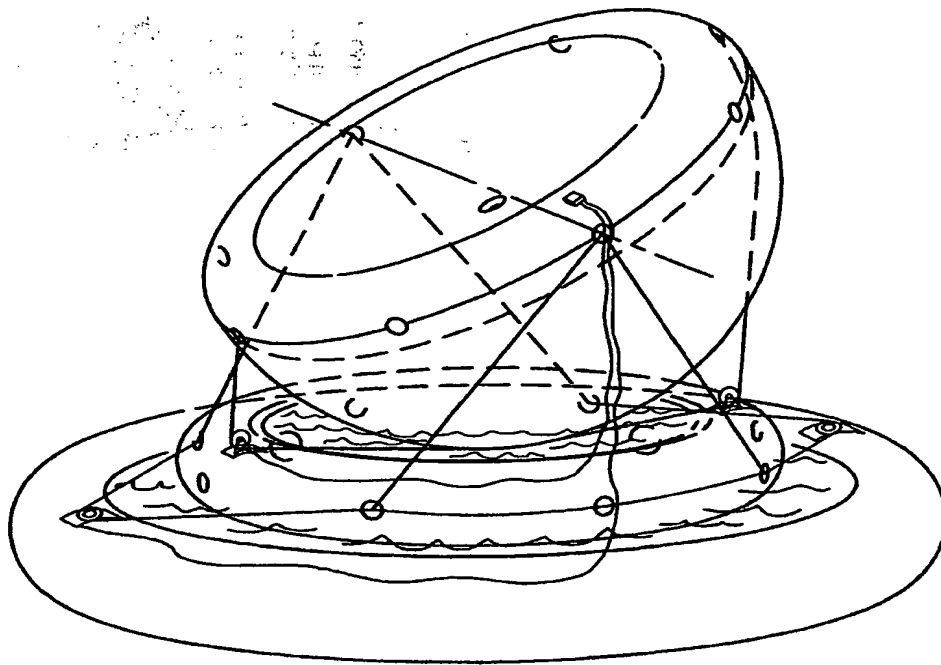


FIG. [38B] 28B

ANNOTATED SHEET

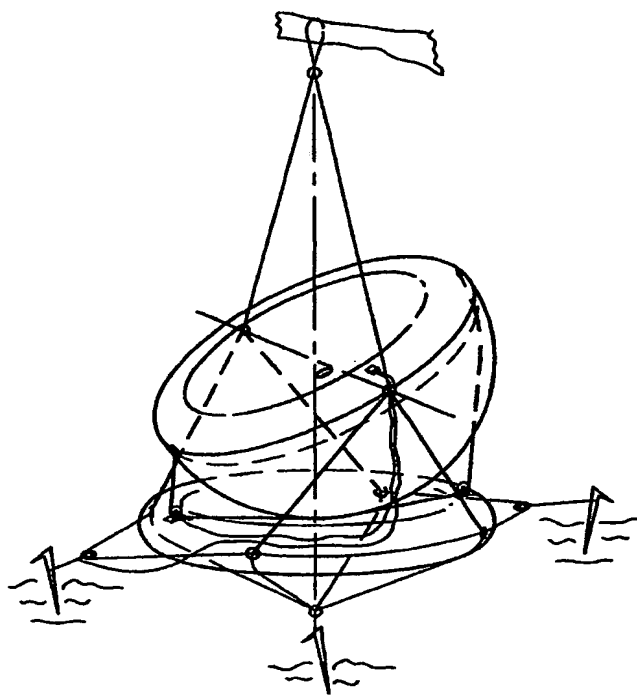


FIG. [39A]
29A

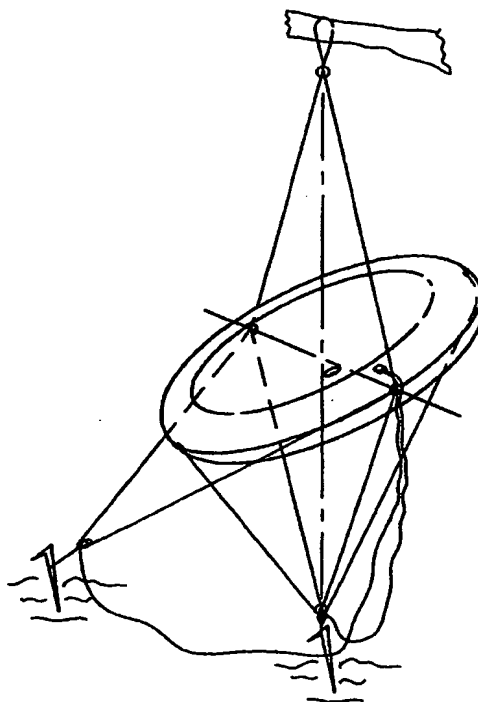


FIG. [39B]
29B

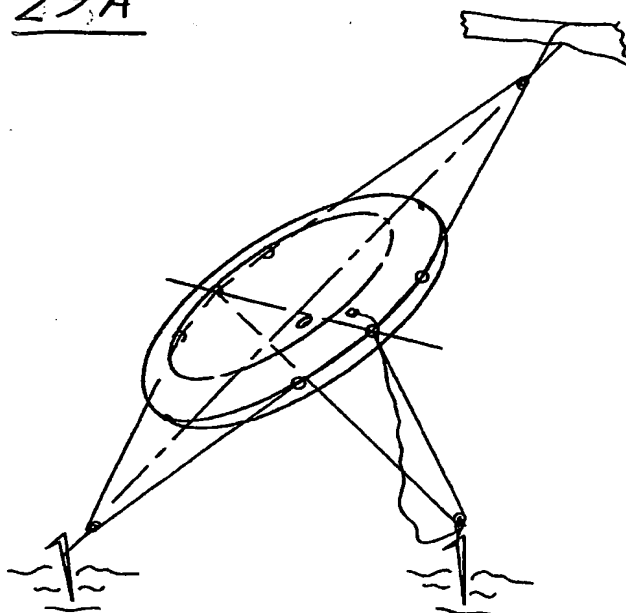


FIG. [39C]
29C

ANNOTATED SHEET

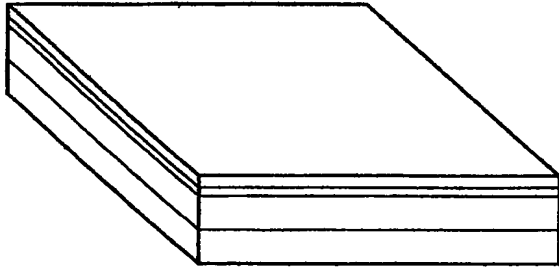


FIG. [40A]
30A

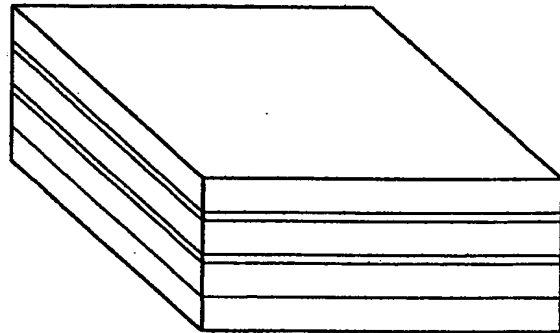


FIG. [40B]
30B

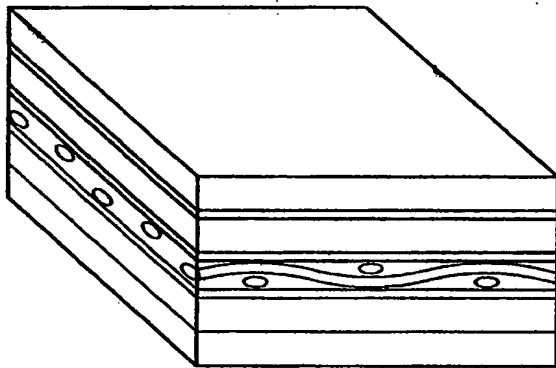


FIG. [40C]
30C

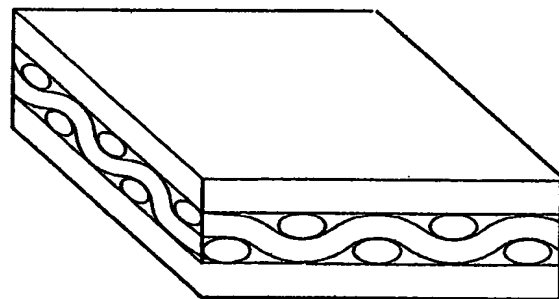


FIG. [40D]
30D